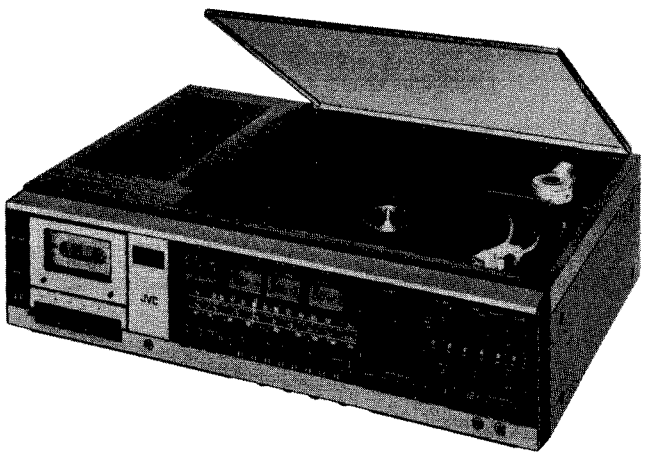
JVC

SERVICE MANUAL

MODEL

MF-47L/ML

3 IN 1 MUSIC SYSTEM



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Contents

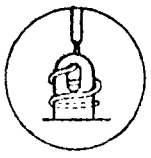
	Page
Cautions for Safety Assurance	2
Specification	3
Features	3
New Technical Information	
— FM pre-set tuning circuit —	3
Name of External Parts	5
Disassembly Instruction	6
Record Player Adjustment	7
Removal of Cassette Deck Mechanism	8
Check Point After Replacement of Rotation Parts	9
Head Replacement and Adjustment	9
Cassette Deck Circuit Board Adjustment	10
Tuner Alignment	11
How to Engage Dial String	13
Wiring Diagram of Power Source Part	13
Block Diagram	14
Exploded View of Cassette Mechanism	15
Cassette Mechanism Parts List	16
Exploded View of Record Player Mechanism & Main Service Parts List	17
Exploded View of Environment Parts	18
Installation of Front Panel Inside (1)	18
Installation of Front Panel Inside (2)	19
Aspect & Attachment Parts List	20
Circuit Boards Diagrams & Parts List	21
Tuner Circuit Board	22
Tuner Circuit Board Parts List	23
Cassette Amp. Circuit Board	24
Cassette Amp. Circuit Board Parts List	25
Control Amp. Circuit Board	26
Control Amp. Circuit Board Parts List	26
Power Amp. Circuit Board Parts List	26
Power Supply Circuit Board Parts List	26
Power Amp. Circuit Board	27
Other Parts (AC power input circuit parts & Accessory parts)	27
Characteristics of Transistors	28
Transistor and IC Lead Identification	28
Schematic Diagram	31
Tuner Circuit	31
Control Amplifier	32
Cassette Circuit	33
Power Source & Amplifier	34

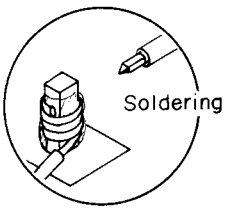
Cautions for Safety Assurance at the Service

Cautions for safety assurance at the service

In order to prevent from accidents, like fire or shock hazard, please keep the following points for the safety.

1. The parts marked with ⚠ in the list of this manual are safety assurance parts.
   When replacing this kind of parts, make sure to use the specified one.
2. Although in case of replacing the other kind of parts than ⚠ mark, it is recommended to use the parts listed in this manual to keep appliance safe and reliable.
3. When wire connection is made, solder the connecting part after winding the wire round the terminal more than half turn in order to prevent easy disconnection.
4. When replacing the parts in the circuit marked in the schematic diagrams use only the listed parts in this manual. The marked circuit : ▓▓▓
5. The symbol mark ⏦ is showing a fusible resistor, please use the listed parts.
6. The heat radiating parts (resistor, transistor, etc.) should be spaced enough from printed circuit board, plastics or another electrical parts to be free from its heat.
   Some parts may radiate big heat when transistor or circuitry has been damaged.
7. When altered the working voltage or frequency of the appliance make sure to specify it on the appliance and its carton case.





Specification

Cassette deck

Type	:	Stereo cassette deck with Auto-stop and Dolby Noise Reduction system
Track system	:	4-track, 2-channel stereo
Bias & Erase	:	AC bias and AC erase (Bias Frequency 57kHz)
Heads	:	Permalloy head for Record/Play Ferrite head for erase
Frequency response	:	(Normal) 30–13,000Hz (Chrome) 30–15,000Hz
Wow and flutter	:	0.15% (WRMS)
S/N ratio	:	50dB The S/N is improved by 5dB at 1kHz and 10dB at 5kHz or more with Dolby NR system

Tuner

Type	:	3-band (FM/MW/LW) FM stereo tuner with PLL IC Multiplex
Tuning range	:	FM 88–108MHz MW 520–1600kHz LW 150–350kHz
FM Preset	:	7 feather touch selectors 1 manual selector Sensor (8 positions)
Stereo separation	:	35dB

Amplifier

Type	:	IC power amplifier with bass and treble controls
Continuous power	:	25 watts RMS per channel at 4 ohms (T.H.D. 1%) 20 watts RMS per channel at 8 ohms (T.H.D. 1%)
Music power	:	100 watts

Turntable

Type	:	Belt drive turntable with auto return mechanism and cueing
Speed	:	33-1/3, 45 rpm
Turntable	:	280mm
Motor	:	DC Electronic Governer Motor
Cartridge	:	Moving magnet type

General

Power source	:	110V, 120V, 220V, 240V, 50/60Hz
Power consumption	:	175 watts
Dimensions	:	160(H) x 600(W) x 425(D)mm
Weight	:	12.5kg (27.4 lbs)

Features

- DOLBY NR circuit built-in.
- 7-keys FM pre-set touch senser equipped
- Auto-return record player & DC electrogovernor.
- PLL circuit adopted in FM multiplex.
- 25 Watt per channel/4Ω, 20 Watt/8Ω

New Technical Information

— FM pre-set tuning circuit —

The FM pre-set tuning circuit adopted in model MF-47L/ML is composed of electronic tuner and selection circuit of FM broadcasting station. This system features easy selection of desired FM station merely by touching your finger on the touch-sensor on the front panel of set.

The outline of this system is that the selection circuit generates a voltage corresponding to desired FM station, and makes the voltage apply to the electronic tuner to select the station. The features of this system are:—

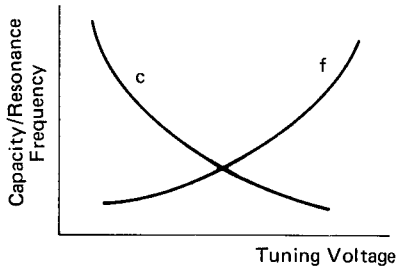
1. Instant selection of FM station can be made without rotating the tuning knob.
2. Free from mechanical defacement in selecting station because of electronic system.

However, on the contrary, the system has a demerit that the circuit is complicated as the selection circuit is added, etc. We should therefore like to explain about the outline of basic circuit and function. Please utilize it as hints when repairing.

Principle of basic circuit operation of electronic tuner

The electronic tuner operates so as to tune in desired FM station, and makes a specified IF output apply to IF amplifier circuit. For the frequency tuning element of this function, the variable capacity diode (called as varactor diode or varicap.) is used.

The variable capacity diode has a characteristic as in Fig. 1, and in case the resonance circuit is formed by use of the V.C. diode, its resonance frequency becomes higher according as reverse voltage is applied to the V.C. diode. FM pre-set circuit utilizes this principle of operation.



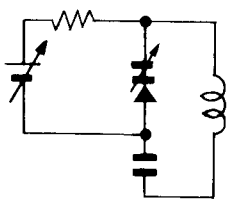


Fig. 1.

Outline of Selection Circuit

Pre-set electronic selection system is adopted. This circuit consists of the following 4 part.

- Operation part.
- Selection part which drives tuner after keeping the touch-input signal in memory.
- Indicator part which indicates the FM broadcast in receiving.
- Pre-set part to select the desired FM broadcasting station previously.

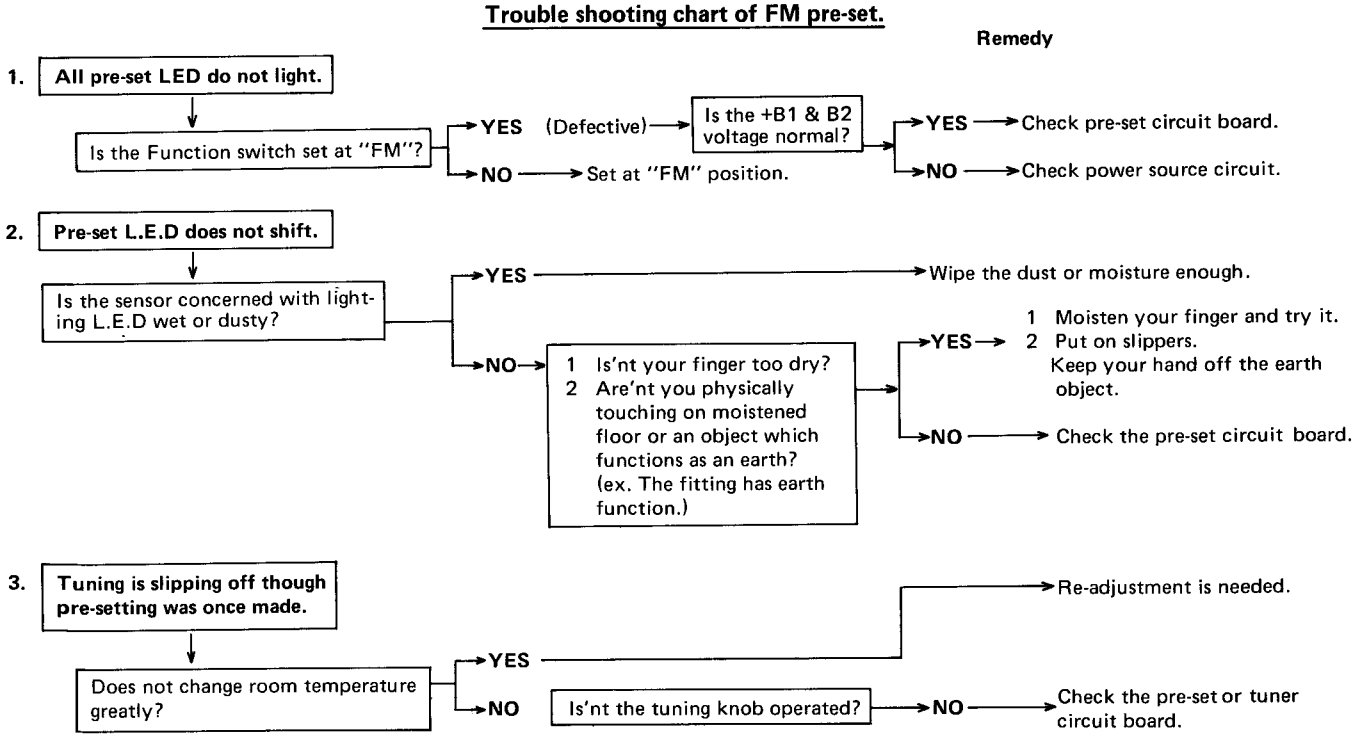
1 Operation part
There are two kinds of the operation system:
senser system and switch system. Model FM-47ML uses senser system of 2-pole type. (To touch 2 poles simultaniously.)

2 Selection part
In this part, the touch input signal is kept in memory, and pre-set voltage is given to the tuner driving circuit, and also the output for indication of FM station is given to the indicator circuit.
This part utilizes two pieces of IC (μPC 1009C) of senser type which electronically select a station.

3 Indicator part
LED is used as for indicator of the FM station in receiving. The output for indicator coming from the selection part makes transistor switch to lighten L.E.D.

4 Pre-set part
This part consists of 7 variable resistors for pre-setting.

Trouble shooting chart of FM pre-set.


Remedy
1. All pre-set LED do not light.
Is the Function switch set at "FM"?
YES
(Defective)
Is the +B1 & B2 voltage normal?
YES
Check pre-set circuit board.
NO
Set at "FM" position.
NO
Check power source circuit.
2. Pre-set L.E.D does not shift.
Is the sensor concerned with lighting L.E.D wet or dusty?
YES
Wipe the dust or moisture enough.
NO
1 Is'nt your finger too dry?
2 Are'nt you physically touching on moistened floor or an object which functions as an earth? (ex. The fitting has earth function.)
YES
1 Moisten your finger and try it.
2 Put on slippers.
Keep your hand off the earth object.
NO
Check the pre-set circuit board.
3. Tuning is slipping off though pre-setting was once made.
Does not change room temperature greatly?
YES
Re-adjustment is needed.
NO
Is'nt the tuning knob operated?
NO
Check the pre-set or tuner circuit board.

Caution: In case dusty oil was stuck on the pre-set circuit board, receiving frequency may vary from one of pre-set state. Please be mind on this point when servicing.

Name of External Parts

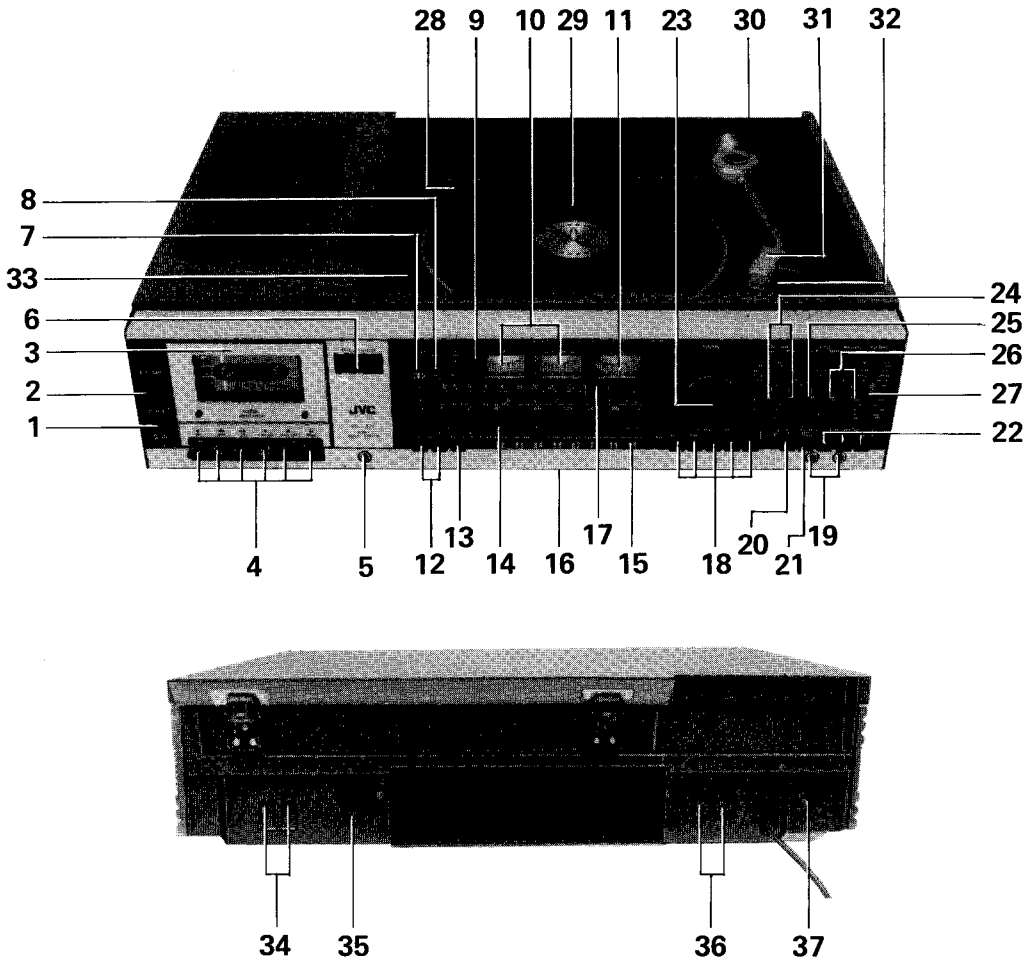


Fig. 2

Ref. No.	Parts Name	Parts No.	Ref. No.	Parts Name	Parts No.
1.	Power switch	QSP2111-011	19.	Microphone jacks	QMS6303-006
2.	BEAT CUT switch	QSS2301-002	20.	AFC switch	Y40428-001
3.	Cassette holder	Y40501-001	21.	FM muting/mode switch	Y40428-001
4.	Cassette operation buttons	TJK338301-01	22.	Radio band selectors	Y40428-001
5.	Headphone jack	QMS6313-001	23.	Tuning knob	YXKP040-3001C
6.	TAPE COUNTER/Counter reset button	MP390-233T	24.	Recording level controls	Y40425-001
			25.	TONE control	Y40425-001
7.	RECORDING indicator	"	26.	BALANCE control	Y40425-001
8.	Dolby NR indicator	TLR114	27.	VOLUME control	Y40425-001
9.	FM stereo indicator	"	28.	EP adapter	G8395-1
10.	REC LEVEL meters	Y00078-001	29.	Turntable	Y30185-001
11.	Pre-set tuning meter	Y00079-001	30.	Pick up Arm	Y30235-001
12.	TAPE SELECT buttons	Y40428-001	31.	Cartridge	MD-1016B
13.	Dolby NR switch	Y40428-001	32.	REJECT lever	Y40419-001
14.	Pre-set indicators and MANUAL tuning indicator	TLR114 "	33.	Speed selector switch (33.45)	Y40408-001
			34.	ANTENNA terminals	Y00074-001
15.	Pre-set station selectors	Y40430-001	35.	REC/PB jack	QMC9014-006
16.	Pre-set tuning knob	Y00072-203	36.	Speaker DIN terminals	Y00071-001
17.	FM/LW/MW tuning dial	Y30183-001	37.	Voltage selector	QSR0074-001
18.	Source selection buttons	Y40428-001			

Disassembly Instruction

Item	Removal Sequency	Reference
Dust Cover	Open and slide it to slight rightward. Sliding action disengages it from hinges.	
Record Player	1. Remove 2 screws on the turntable with pulling up the turntable 2. Disconnect 2 plugs from underside of player board.	
Top Panel [Cabinet case] (To expose set inside)	1. Take out record player in above way. 2. Remove 4 screws on the rear side. 3. Remove both side panels of set by unscrewing respective 4 screws on them. 4. Remove each 1 screw on both sides located at the upper position close to front panel. 5. Remove 1 screw on the leftward of top panel. Then take off top panel as pulling it slightly backwards.	Fig. 3, A Fig. 3, B Fig. 4, C
Power Switch	1. Take out record player and top panel in above way. 2. Push the switch then. 3. Pull the push shaft (Black) strongly, and they will be disconnected, with holding the washer fitted at the top of switch shaft to keep switch-in-state. 4. After that, remove screws fixing the switch and unsolder to replace it.	
Cassetter Section	1. Take out record player and top panel in above way. 2. Push the EJECT button to open cassette cover. 3. Pushing the both lower sides of cassette cover, pull out the cover upwards. 4. Remove 4 screws fixing the cassette chassis base to the front panel.	Fig. 10 Fig. 6
Front Panel	1. Firstly, remove dust cover, record player, top panel in above way. 2. Remove Pre-set circuit boards (upper & lower) by unscrewing. 3. Remove each 2 screws fastening the brackets at both sides, and 2 intermediate screws which fix front panel. **CAUTION:** WHEN RE-FIXING PRE-SET CIRCUIT BOARD, INSERT IT TO ORIGINAL POSITION IN ACCORDANCE WITH GUIDE MARKED ON THE SIDE OF THE CIRCUIT BOARD. OTHERWISE, SENSER MAY BE DAMAGED.	Fig. 4 Fig. 4, D, E

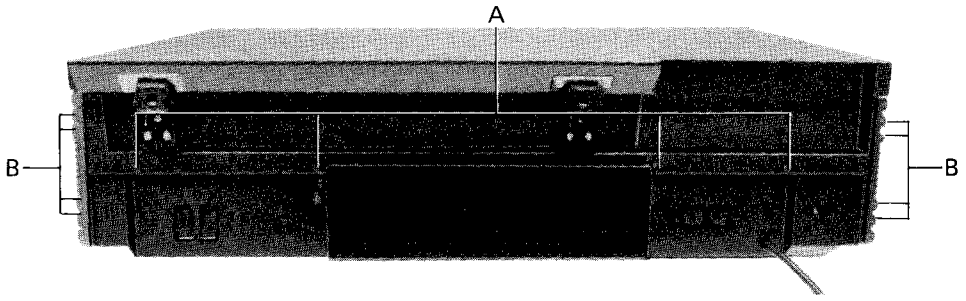


Fig. 3

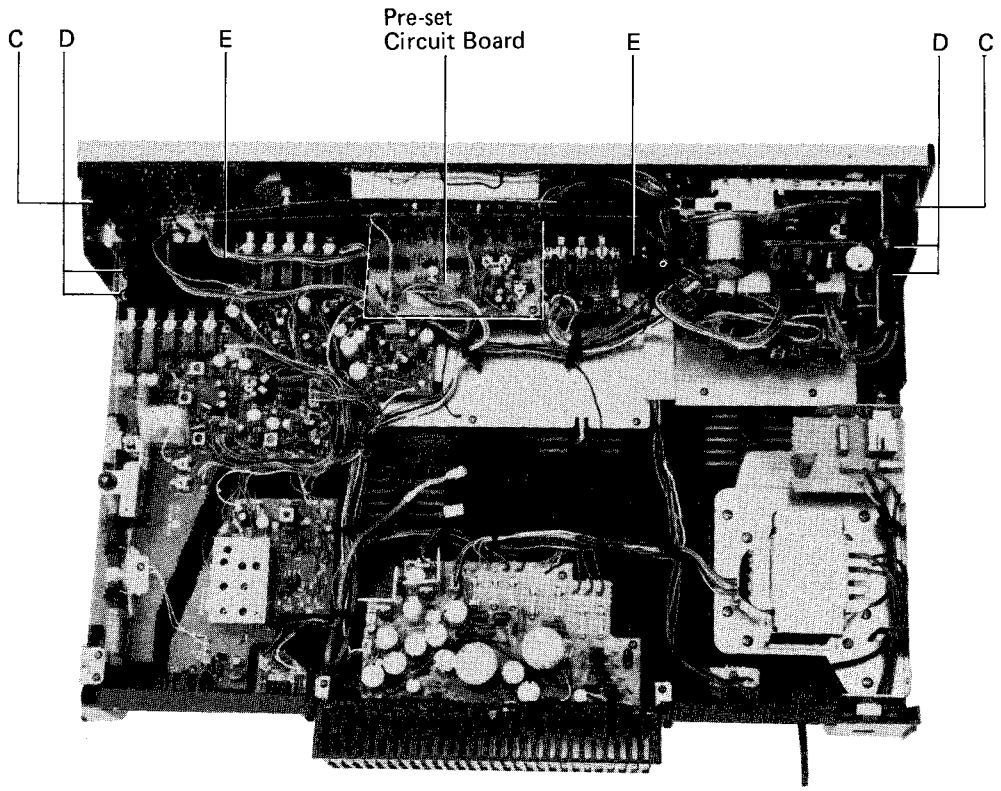


Fig. 4

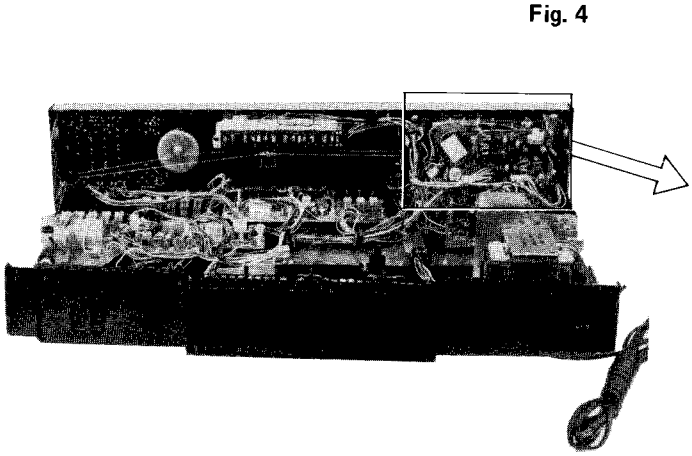


Fig. 5

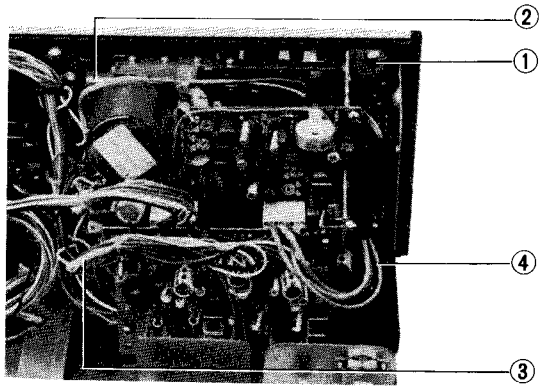


Fig. 6

Record Player Adjustment

Confirmation of Normal Operation of Auto return Mechanism

When you bring pickup to the position of boss (A) while keeping the Lower Trip Pawl pushed inward (Arrow) by hand, if pick up does not move foreward, operation of auto return mechanism is normal.

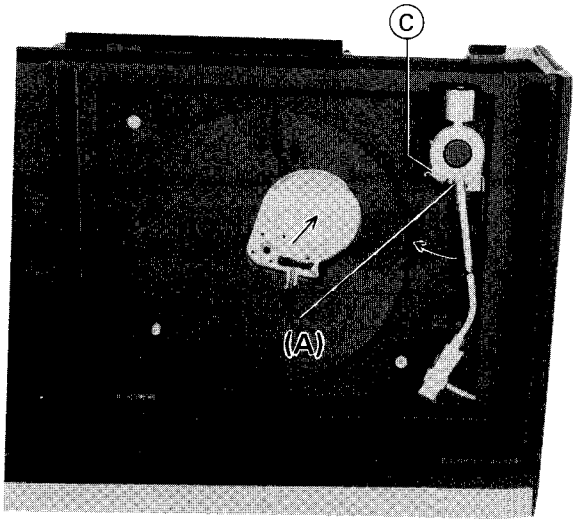
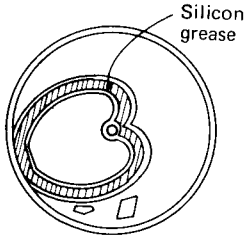


Fig. 7

Lead-out adjustment

After replacing the cartridge or changing the lead-out mechanism, adjust using the following procedure:

- When the arm does not lead out.
  Play JVC test record RG-652 (pitch 3mm) and turn the adjusting screw shown in Fig. 8 counterclockwise until the tonearm leads out properly.
- When the arm leads out too early (before reaching the most inner groove), play JVC test record RG-653 (reverse side of RG-652) and turn the adjusting screw clockwise until the tonearm leads out properly.



Lubrication

- Apply silicon grease to the groove on the rear side of the gear as shown in the left Figure.

Stylus tip position adjustment (Fig. 7. C)

Adjust the height of the stylus tip with the adjusting screw on the arm elevator shown in Fig. 7 until the distance between the stylus tip and record surface is approximately 10mm when the arm leads out. Turning the screw clockwise lowers the stylus tip and counterclockwise raises it.

Speed adjustment of turntable

Adjust two semi-fixed resistor on the motor control circuit board for each speed.

45 rpm : (A)
33 rpm : (B) in Fig. 9

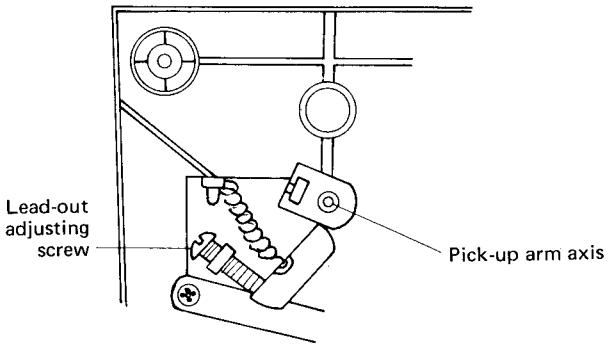


Fig. 8

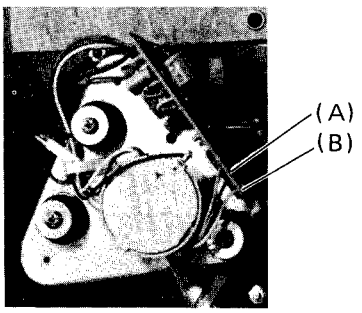


Fig. 9

Removal of Cassette Deck Mechanism

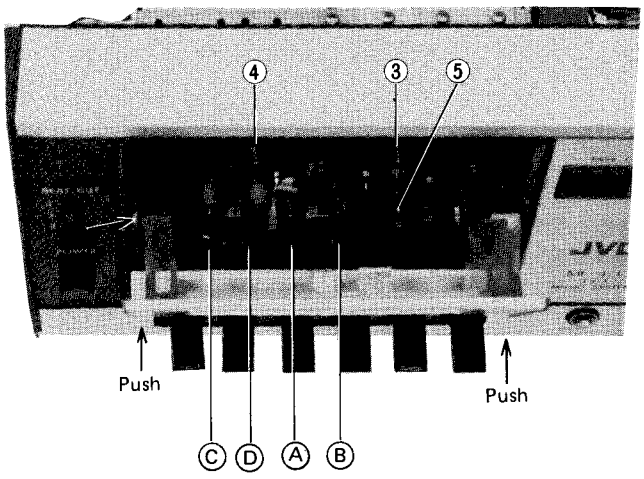


Fig. 10

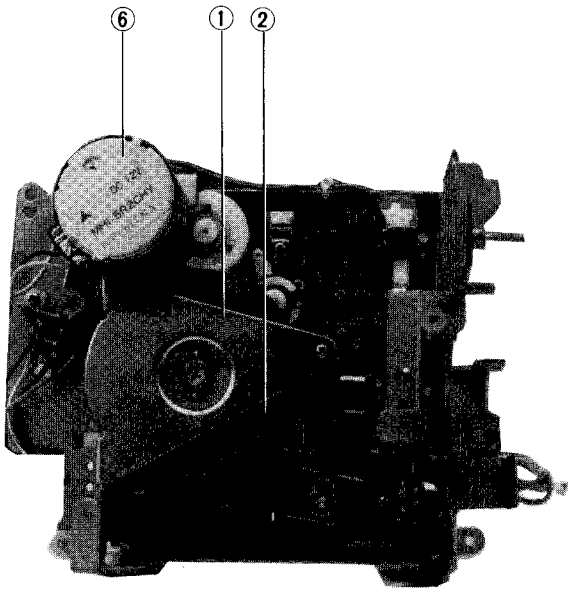


Fig. 11

Parts	Removing	Dwg. No.	Remarks
Motor	1. Disconnect plug from P.C. Board. 2. Remove a capstan belt. 3. Remove the motor. (screw 3 pcs)	 ⑥	Be careful not to soil in belt. Fig. 11
Flywheel	1. Remove a capstan belt. 2. Take out a flywheel holder. (screw 3 pcs) 3. Pull out the flywheel (shaft 1pc)	 ① ②	 Fig. 11
Pinch Roller Arm Ass'y	Remove an E ring fixing a pinch-roller arm ass'y. (E ring 1 pc)	⑤	Fig. 10
Take up Reel (Right) Supply Reel (Left)	1. Take out an E ring fixing take-up and supply reel. (E ring 1 pc) 2. Take out a reel from the shaft.	④ ③	Fig. 10

Note: 1. Don't dirty with oil or extend excessively the belts to prevent the increase of wow and flatter.
2. Adjust the height of the Motor Pulley, when replacing the Flywheel-drivebelt, so that the belt will be parallel to the chassis surface.

Check Point After Replacement of Rotation Parts

1. Pinch Roller Pressure

- It must be within 400 ~ 550 g/cm
- The roller continues to rotate after being rotated by the finger.
- The roller surface contacting the capstan must be vertical.

2. Flywheel

- A little thrust clearance exists between flywheel shaft bearing and spacial washer.
- The capstan is clean, correctly centered, and provides quiet rotation.

3. Play torque

It must be within 40 ~ 70 g/cm
If the torque is out of the specified range, the following action is necessory.

1 Wipe the takeup disc periphery and all the parts with which the disc comes in contact, by use of a cloth moistened in alcohol.
2. Nevertheless normal condition is not obtained, replace the takeup disc or takeup lever spring.

Head Replacement and Adjustment

If either of the Recording/PB head and the Erase head shows low performance caused by wear, broken wire or excessive magnetization, it should be replaced. They can be removed by loosening screws with following procedure.

Replacing the Head

Step
1. Push the EJECT button to open cassette cover.
2. Unhook the brake arm of air damper at left of the cassette cover.
3. Pushing the both lower sides of cassette cover, pull out the cover upwards.
4. Erasing Head
(Remove 2 screws Ⓒ & Ⓓ) (Fig. 10)
5. Play/Rec Head
(Remove 2 screws Ⓐ & Ⓑ) (Fig. 10)
After replacement, adjust the azimuth of head.

Azimuth Adjustment

Preparation
Regarding Azimuth Adjustment only, unscrew 2 screws Ⓐ, Ⓑ in Fig. 12 to remove cover plate, and push PLAY/REC button, so that the heads part will be shifted upwards and the adjustment can be made with a screwdriver from upper side of the operation buttons.

Step
1. Connect the INPUT jack of V.T.V.M. to the LINE OUT of REC/PB socket.
2. Play back the standard tape (Full Track or JVC Test Tape VTT658 10kHz) for azimuth (angle adjustment).

3. Adjust screw ② so that indication of V.T.V.M. will become max.
   When the azimuth adjustment standard tape is not available, play a music cassette.
   Make the treble sound optimum with turning the screw ②.
4. After this adjustment, the screw ② should be locked with a bond.
   If necessary, adjust playback level, recording bias current, bias and trap etc.

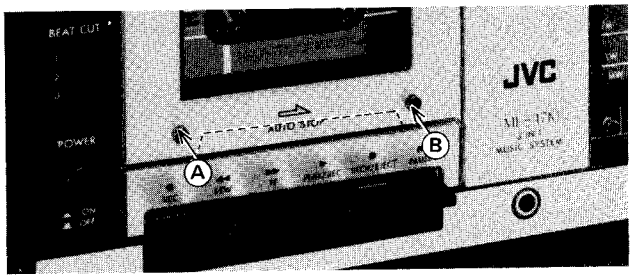


Fig. 12

Cassette Deck Circuit Board Adjustment

Item of Adjustment

1. DolbyNoise Reduction Level
2. Level meter
3. Playback Gain
4. Recording bias current
5. Recording current

Equipment and measuring instruments to be used for adjustment

1. VTVM (measuring AC in milivolts)
2. Oscilloscope
3. Oscillator
4. Attenuator
5. Frequency counter
6. Standard tape VTT-664 (1kHz 16mM/mm)
7. C-60 Normal sub-standard tape
8. 100Ω Resistor

1. DOLBY N.R. Level

1. Set SOURCE SELECT switch to "AUX".
2. Set DOLBY N.R. switch to "OFF".
3. Set the deck in recording mode.
4. Apply 1kHz signal of proper level (0.5V approximately) to "AUX" input terminal.
5. Adjust the front REC VOLUME so that the signal level will be -24 dBm at the terminals of VR401 (L-ch) and VR402 (R-ch) respectively. (Refer to Fig. 14)
6. Finally adjust VR401 and 402 so that the level will be -2.5 dBm at the DIN T.P. (L) and (R).

2. Adjustment of Level Meter

After adjustment of Dolby Noise Reduction Level was completed, adjust the VR303 (L) & VR304 (R) so that the level meter indicates Cal (+3dB). (Refer to Fig. 14)

3. Playback level

1. Set SOURCE SELECT switch to "CASS".
2. Set EQUALIZER switch to "NORMAL".
3. Set DOLBY N.R switch to "OFF".
4. Play the reference tape VTT-664, (1kHz), and adjust VR301 (L-ch) and VR302 (R-ch) so that the level meter will indicate 0VU.

4. Adjustment of Recording bias and frequency

1. Connect a resistor 100Ω to the earth side terminal of R/P head in recording state, and connect AC milivoltmeter to the both terminals of the resistor. (Refer to Fig. 13)

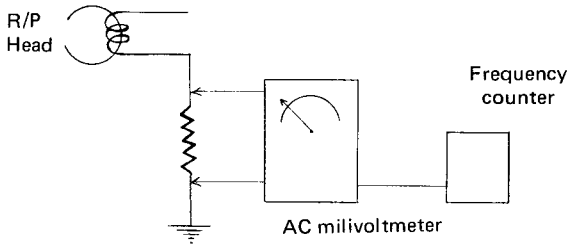
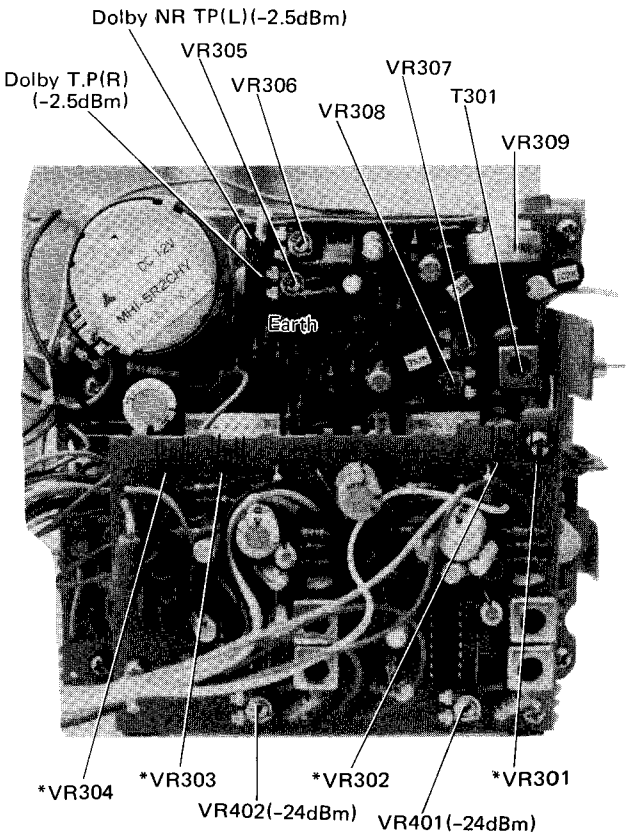


Fig. 13



*These V.R. are positioned on the lower Circuit Board.

Fig. 14

2. While changing the bias switch, adjust so that the specified current will be obtained. The adjustment should be made from "CHROME".

	Place to be adjusted	Bias Current
CHROME	VR307 (L-ch) VR308 (R-ch)	550μA (55mV/100Ω)
NORMAL	VR309 (L,R-ch)	400μA (40mV/100Ω)

3. Regarding bias frequency, adjust T301 so that 57kHz will be obtained when the front BEAT CUT Switch is set to 1.

5. Adjustment of Recording signal current

1. For this adjustment, it is necessory that the swing angle of the level meter and playback sensitivity are correctly adjusted previously.
2. Set the equalizer switch and bias switch to "NORMAL".
3. In recording state, apply 1kHz signal of proper level (0.5V approximately) to "AUX" input terminal, and adjust the front Recording volume so that the level meter will indicate 0 VU'
4. In this state, repeating the recording and playback, adjust VR305 (L-ch) and VR306 (R-ch) until the level meter indicates 0VU.

Tuner Alignment

AM IF & RF ALIGNMENT

- **IF Alignment**
  Equipment required : 455kHz Sweep Generator with Oscilloscope
  Input terminal : A in Fig. 18
  Output terminal : B in Fig. 18

- **RF Alignment**
  Equipment required : Standard Signal Generator (Modulation 1kHz, 30%)
  AC Voltmeter, Oscilloscope
  Input terminal : Loop Antenna for LW and MW
  Output terminal : Speaker terminal (4Ω load)

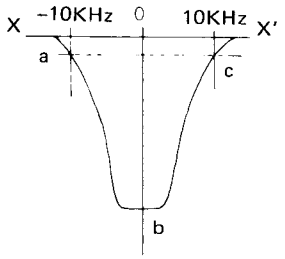


Fig. 15

Step	Band	Input Frequency	Alignment point	Set V. Capacitor to
1	MW (IF)	455kHz	T101,102	Center
2		Adjust T101, 102 as Fig. 15		
3	LW	145kHz	L103	Maximum
4		360kHz	C104-2	Minimum
5		Repeat the step 3 & 4 and adjust for no further improvement.		
6		160kHz	L101(LW side)	160kHz
7		350kHz	C103-2	350kHz
8		Repeat the step 6 & 7 and adjust for no further improvement.		
9	MW	515kHz	L102	Maximum
10		1650kHz	C104-1	Minimum
11		Repeat the step 9 & 10.		
12		600kHz	L101(MW side)	600kHz
13		1400kHz	C103-1	1400kHz
14		Repeat the step 12 & 13 and adjust for no further improvement.		

NOTE: When you adjust the bar antenna coil of MW or LW, check the tracking error for each band, because two coils interfere to each other though slightly.
Always use an insulated screw driver for adjustment.

FM IF and discriminator alignment

Equipment required : 10.7MHz Sweep Generator with Oscilloscope
Input terminal : C in Fig. 18
Output terminal : B in Fig. 18
Adjust T103 as shown in Fig. 16

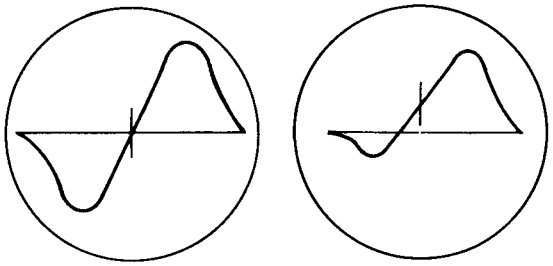


Fig. 16

FM RF alignment

Equipment required : Standard Signal Generator (Modulation 1000Hz, 100% (75kHz/Div.)
Output impedance 300 ohms, AC voltmeter, oscilloscope.
Input terminal : FM Antenna Terminal
Output terminal : Speaker terminal (4Ω load)

Step	Band	Input Frequency	Place to be aligned	Set V. Capacitor to (Dial Needle)
1	FM	Set to "MANUAL" & "AFC OFF". Regarding VR104,201,202,203, set to their center positions.		
2		87.3MHz	VR104	Maximum(Left end)
3		109MHz	VR202	Minimum(Right end)
4		Repeat the Step 2 & 3.		
5		90MHz	VR203	90MHz *
6		106MHz	VR201	106MHz *
7		Repeat the Step 5 & 6, and adjust for no further improvement.		

* Adjust frequency meter to 90MHz and 106MHz respectively.

PLL MPX VFO alignment

Connect a frequency counter to TP and adjust the VR102 until 19kHz is obtained.

Note: If any input is present at the ANT terminal, the input frequency is pulled in. Be sure to detune before alignment.

Separation alignment

Adjust the VR101 so that left and right channel separation will be maximum.

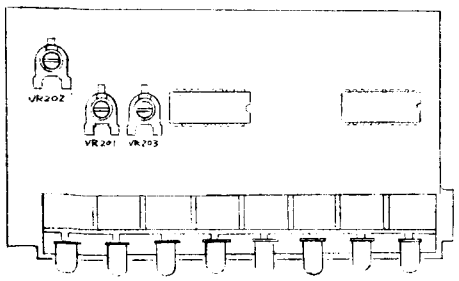


Fig. 17

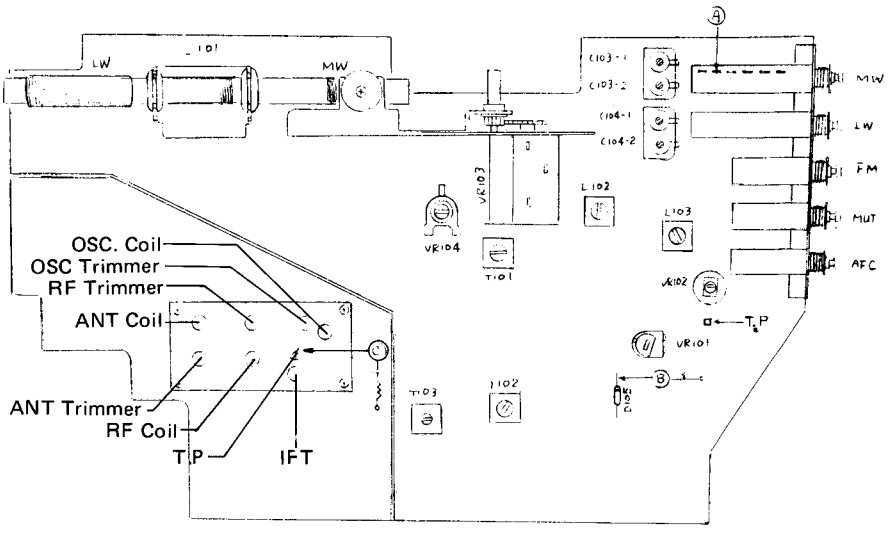
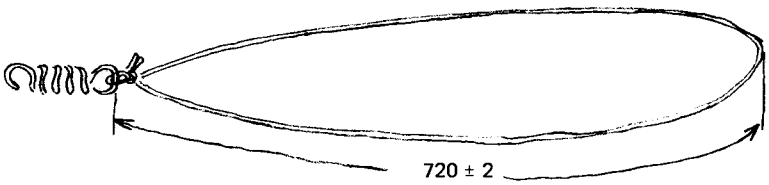
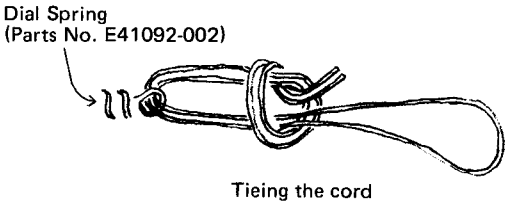


Fig. 18

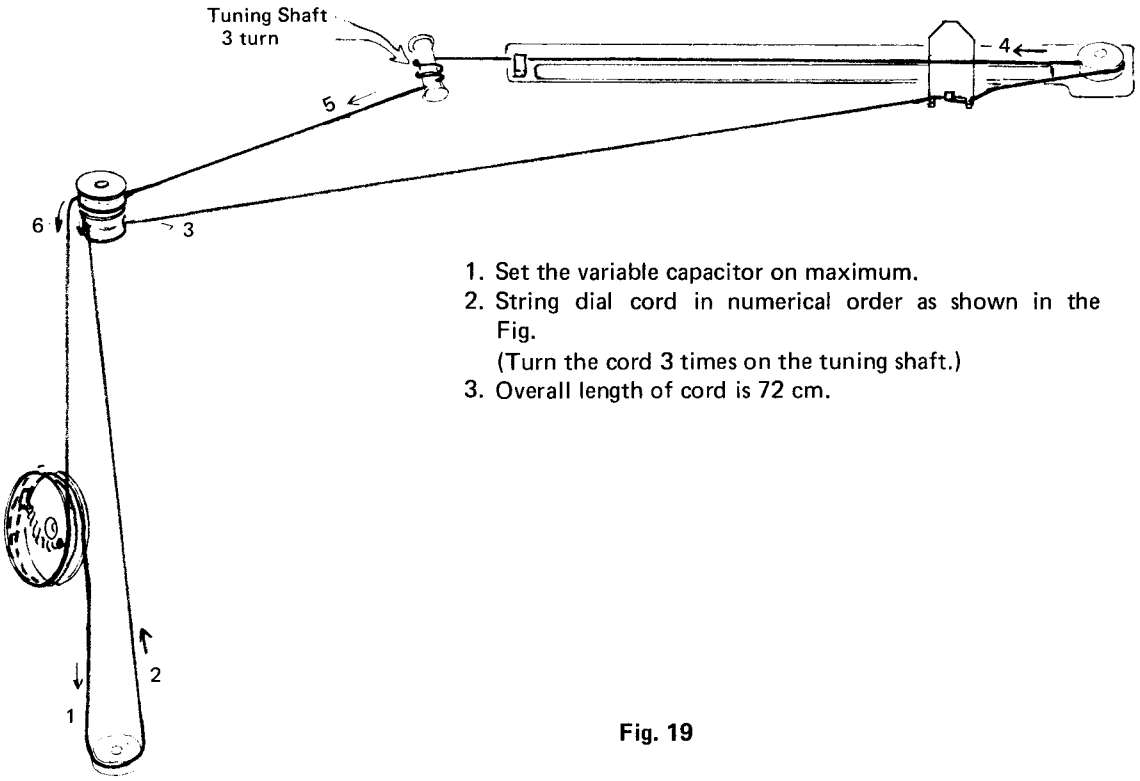
How to Engage Dial String



Preparation before stringing



Tieing the cord



1. Set the variable capacitor on maximum.
2. String dial cord in numerical order as shown in the Fig.
   (Turn the cord 3 times on the tuning shaft.)
3. Overall length of cord is 72 cm.

Fig. 19

Wiring Diagram of Power Source Parts

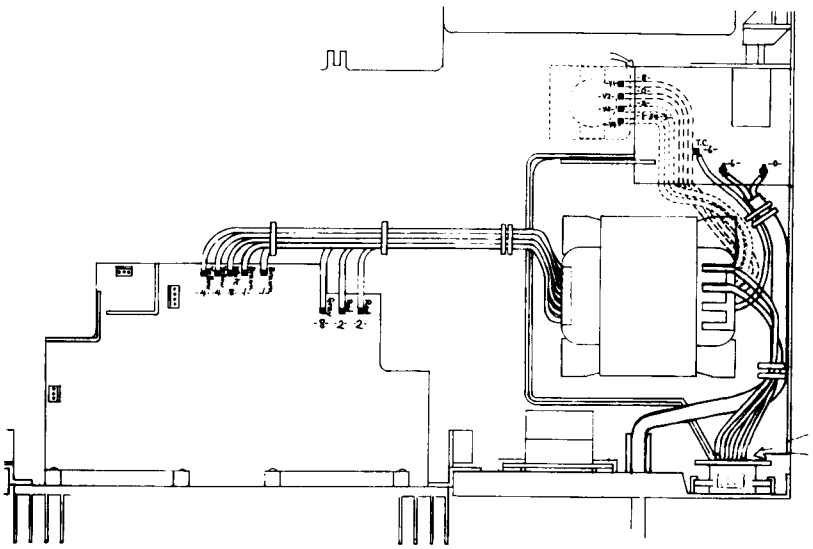


Fig. 20

Block Diagram

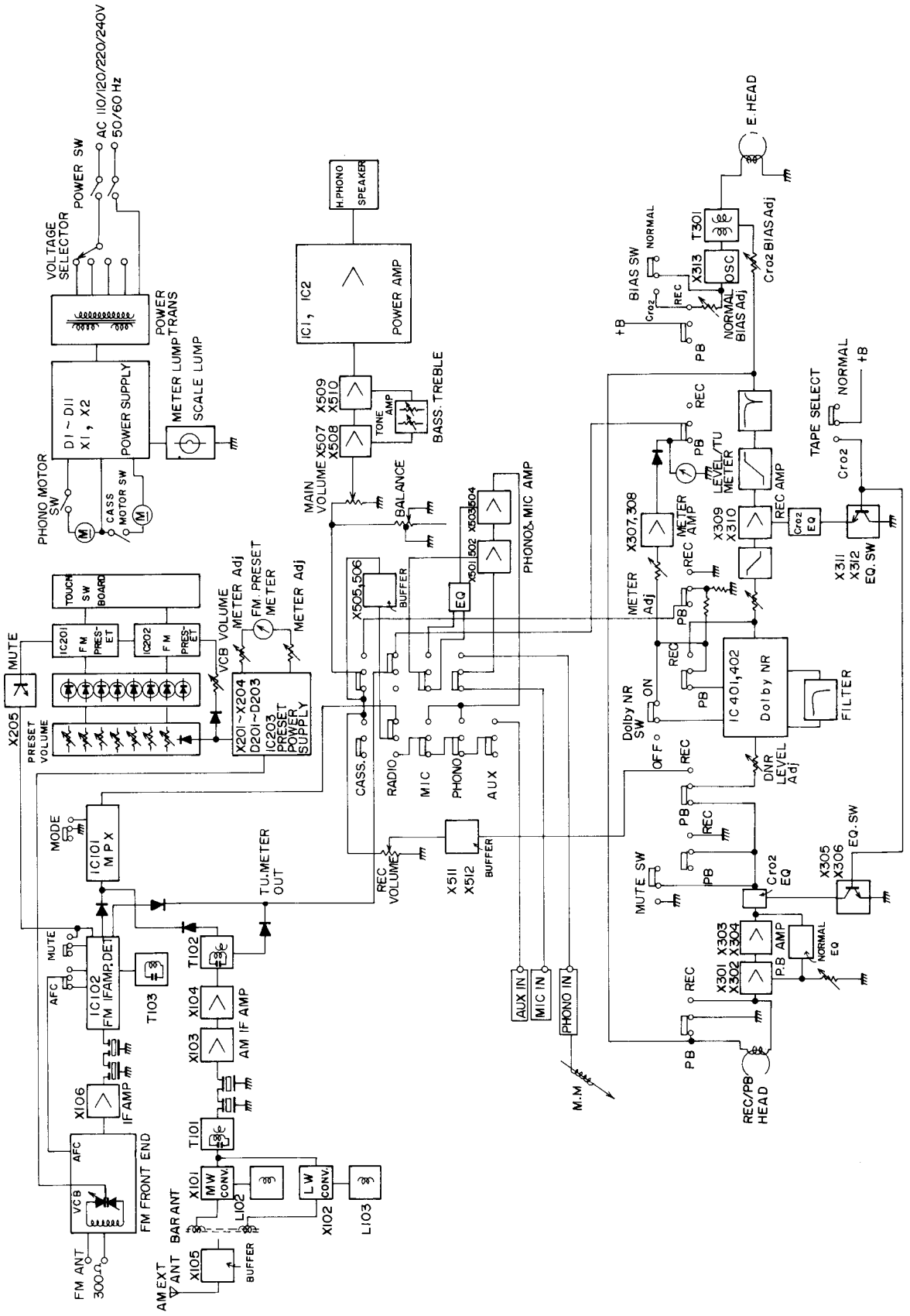


Fig. 21

Exploded View of Cassette Mechanism

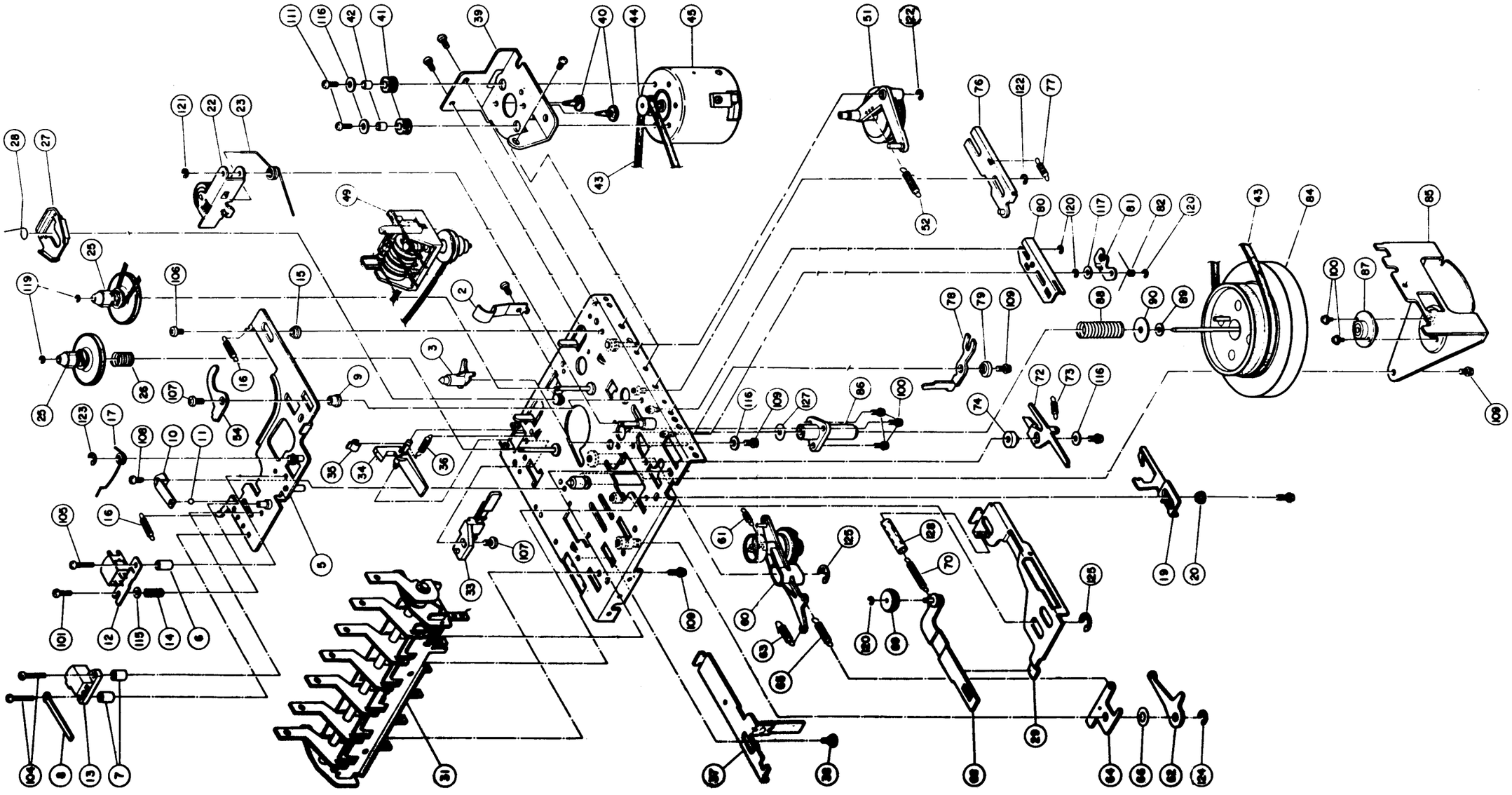


Fig. 22

Cassette Mechanism Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
2	11090102T	Pack Spring		1
3	9730102T	Guide Pin		1
5	11010281ZT	Head Panel Ass'y		1
6	790501T	R/P Head Collar		1
7	4630402T	EH Collar		1
8	031307T	Cord Clamp		1
9	5420402T	Head Panel Collar		1
10	8780404T	Head Panel Hold		1
11	020404T	Steel Ball		1
12	H52902-04T	R/P Head		1
13	H52403-01	Erase Head		1
14	480408T	Head Spring		1
15	4080411T	Head Panel Collar		1
16	4080413T	Head Panel Spring		1
17	4080405T	Review/Cue Spring		1
19	5420408T	Play Slide Lever		1
20	090302T	Play Slide Collar		1
22	7130581ZT	Pinch Roller Ass'y		1
23	6680501T	Pinch Roller Spring		1
25	5720695ZT	Reel Disk Ass'y		1
26	040508T	Back Tension Spring		1
27	4080901T	Brake Arm		1
28	4080902T	Brake Arm Spring		1
29	4080903T	Brake Arm Actuator		1
31	11010291ZT	Push Button Ass'y		1
33	4081801T	Leaf Switch		1
34	2680503T	Record Safety Lever		1
35	2680515T	Stopper		1
36	1320303T	Record Safety Lever Spring		1
37	5470392T	Record Slide Lever		1
38	11051202T	Collar Screw B		1
39	11011001T	Motor Bracket		1
40	581011T	Rubber		1
41	581006T	Motor Rubber		1
42	581009T	Motor Collar		1
43	10451202T	Main Belt		1
44	9731202T	Motor Pulley		1
45	MH-5R2CHYT	Motor		1
49	MP390-223T	Counter		1
51	9730791ZT	Clutch Arm Ass'y		1
52	2380406T	Clutch Arm Spring		1
54	8001305T	Eject Stopper		1
60	66808ZT	FF Idler Arm Ass'y		1
61	581316T	Center Spring		1
62	4080804T	FF Actuator Plate		1
63	4080810T	FF Actuator Spring		1
64	4080815T	Rewind Actuator		1
65	4080810T	Rewind Actuator Spring		1
66	110505T	Nylon Washer		1
68	9701081ZT	RWD Idler Arm Ass'y		1
69	2110902T	RWD Idler		1
70	0209058T	RWD Idler Arm Spring		1
72	4081405	Auto Lever		1
73	4081407T	Auto Lever Spring		1
74	9981401	Auto Lever Collar		1
76	4081581ZT	Slide Lever Ass'y		1
77	4081510T	Slide Lever Spring		1
78	4081503T	Arm Lever		1
79	2381304T	Arm Lever Collar		1
80	5421881ZT	Pause Slide Lever Ass'y		1
81	5421801T	Pause Lever		1
82	5421803T	Pause Lever Spring		1
84	11011101T	Flywheel Capstan		1
85	11011102T	Flywheel Holder		1
86	7131110T	Flywheel Metal		1
87	11011104T	F/Metal B		1
88	11011105T	LE Spring		1
89	11011106T	F/Washer C		1
90	11011107T	F/Washer D		1
100		Tams Screw	M2 x 5	1
101		Screw	(+ –) M2 x 6	1
104		Screw	M2 x 10	1
105		Screw	M2 x 12	1
106		Bind Screw	M2.6 x 4	1
107		Bind Screw	M2.6 x 6	1
109		Tams Screw	M2.6 x 5	1
111		Screw	M2.6 x 6	1
115		Washer	ϕ2.3 x ϕ4.3 x t0.4	1
116		Washer	ϕ2.6 x ϕ7.5 x t0.5	1
117		Washer	ϕ2.3 x ϕ6 x t0.4	1
119		E Ring	ϕ1.2	1
120		E Ring	ϕ1.5	1
121		E Ring	ϕ1.9	1
122		E Ring	ϕ2.0	1
123		E Ring	ϕ2.5	1
124		E Ring	ϕ3.2	1
125		E Ring	ϕ4.0	1
127	7131108	Nylon Washer		1
128		Nylon Tube	ϕ3 x 24	1

Exploded View of Record Player Mechanism

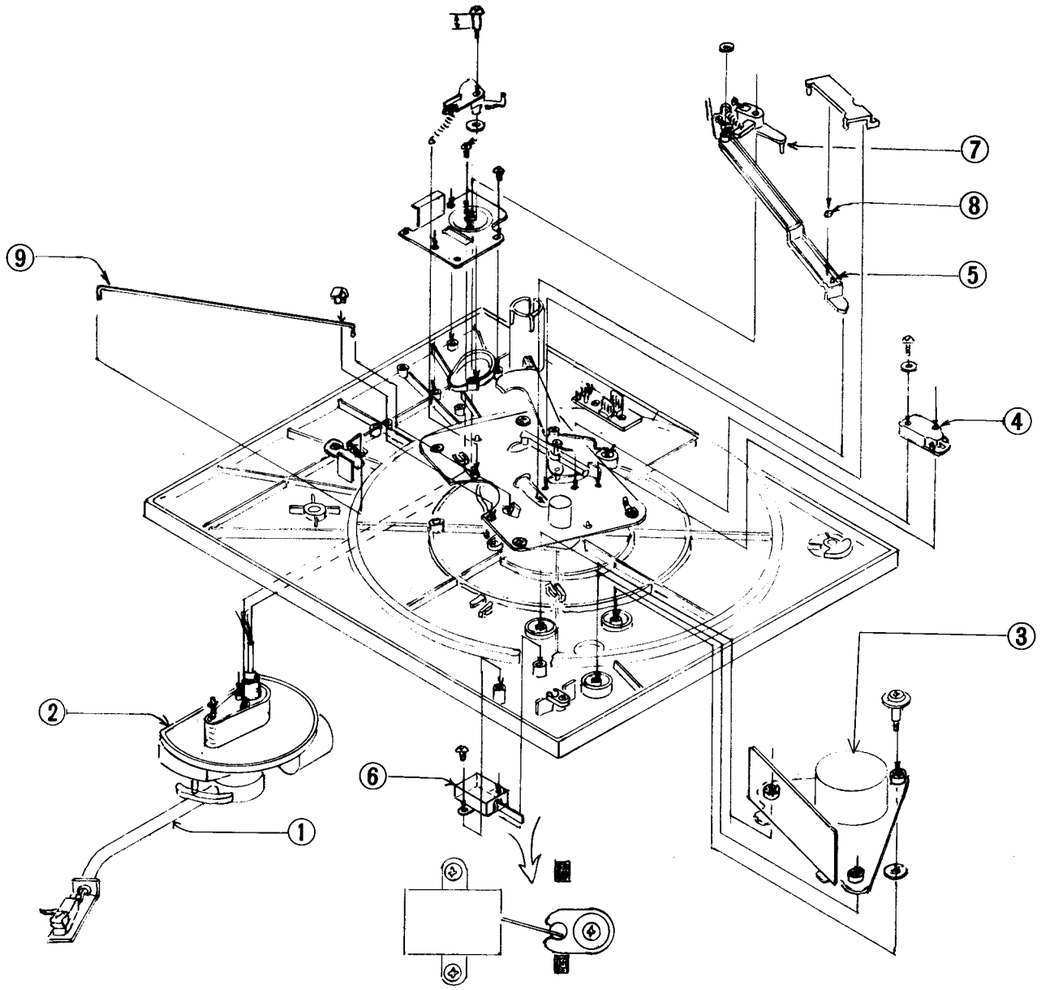


Fig. 23

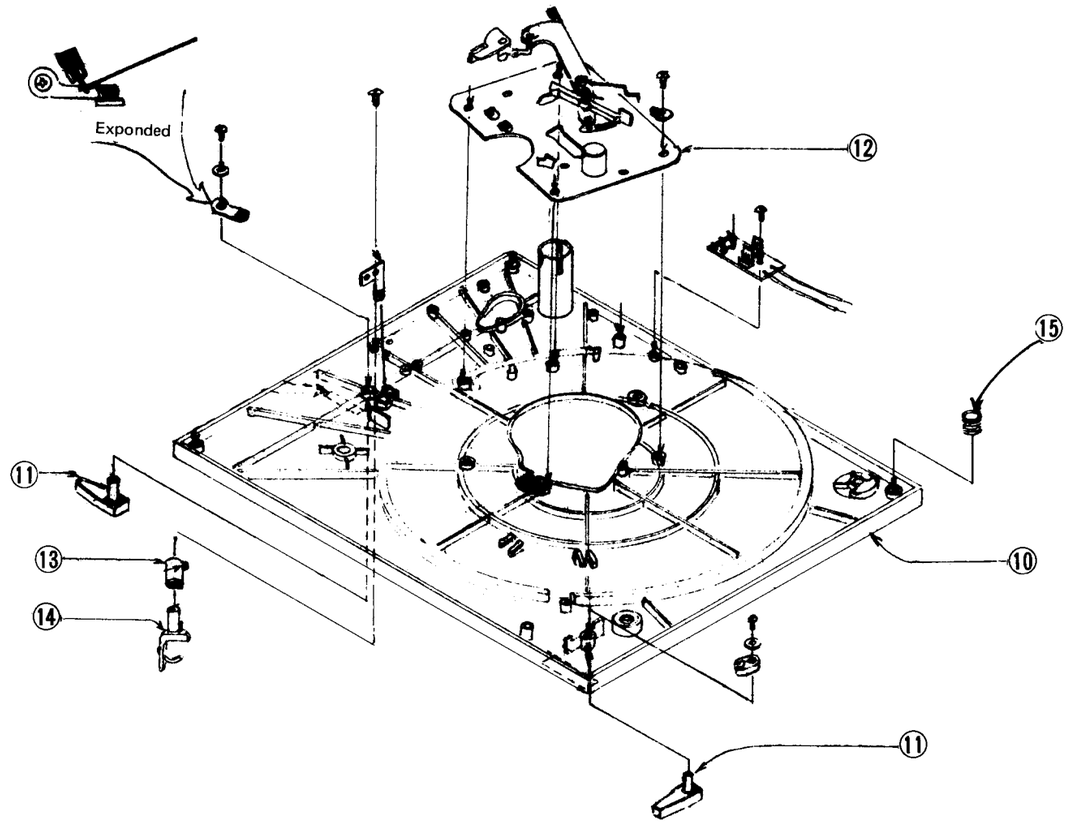


Fig. 24

Main Service Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	CP-127S	Pickup Ass'y		1
	MD-1016B	Cartridge		1
	DT-33S	Stylus		1
2	Y30235-001	Pickup Base Ass'y		1
	YYB30057-001	Elevator Ass'y		1
3	MHE-5P2S	Motor Ass'y		1
	Y40412-001	Motor Pulley Ass'y		1
4	QSM1V01-018	Micro Switch		1
5	Y30187-001	Trip Slide		1
6	Y00065-002	Snap Switch		1
7	Y30186-002	Arm Lever Ass'y		1
8	G41505-1	Steel Ball		1
9	Y40416-001	Reject Rod		1

Main Service Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
10	Y10066-001	Motor Board		1
11	Y40408-001	Knob Ass'y		2
12	Y30196-001	Mech. Base Ass'y		1
13	Y40417-001	Rest Sleeve		1
14	E60326-002	Arm Rest Ass'y		1
15	Y40414-001	Float Spring		4
	Y30185-001	Turntable Ass'y		1
	Y40444-001	Turntable Covering		1
	G30005	Drive Belt		1

Exploded View of Environment Parts

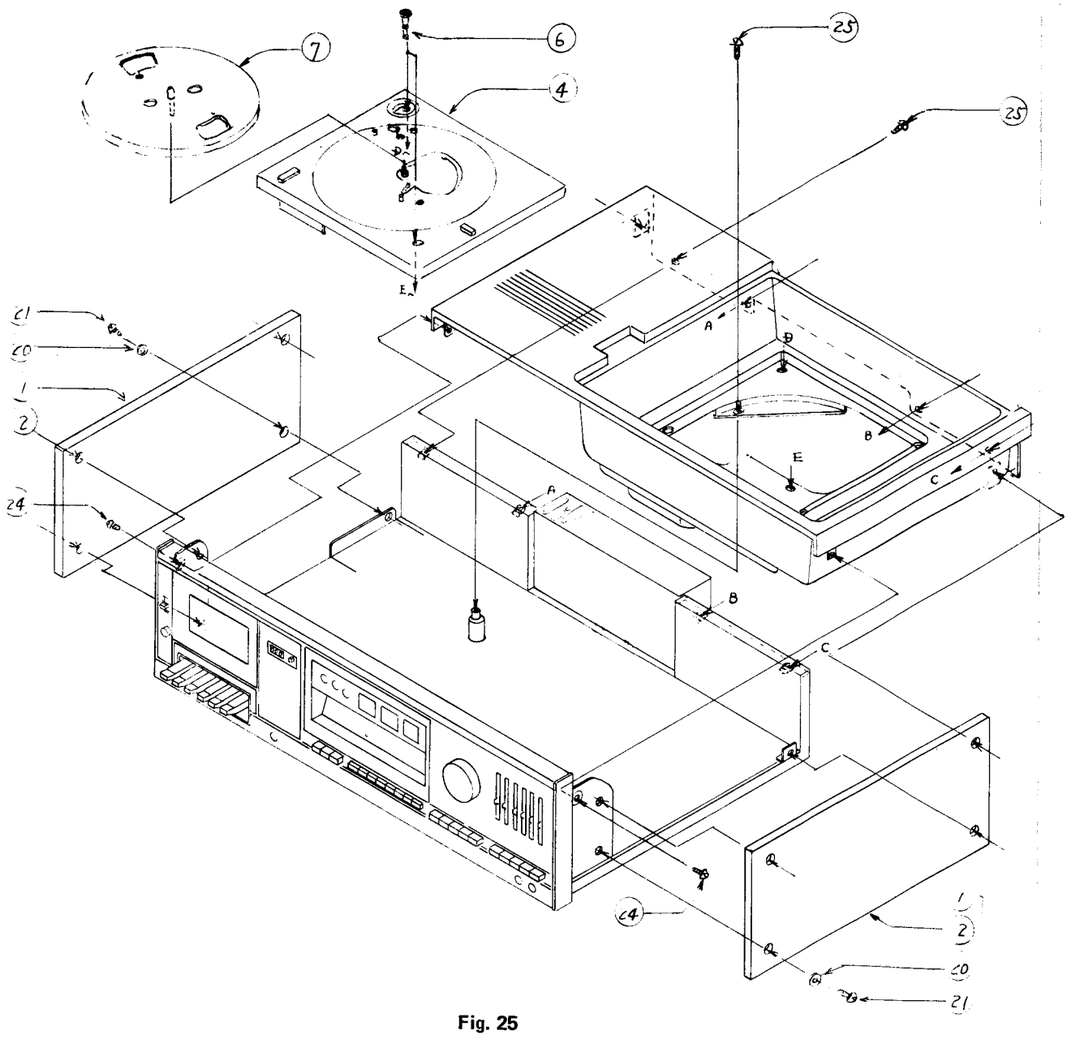


Fig. 25

Installation of Front Panel Inside (1)

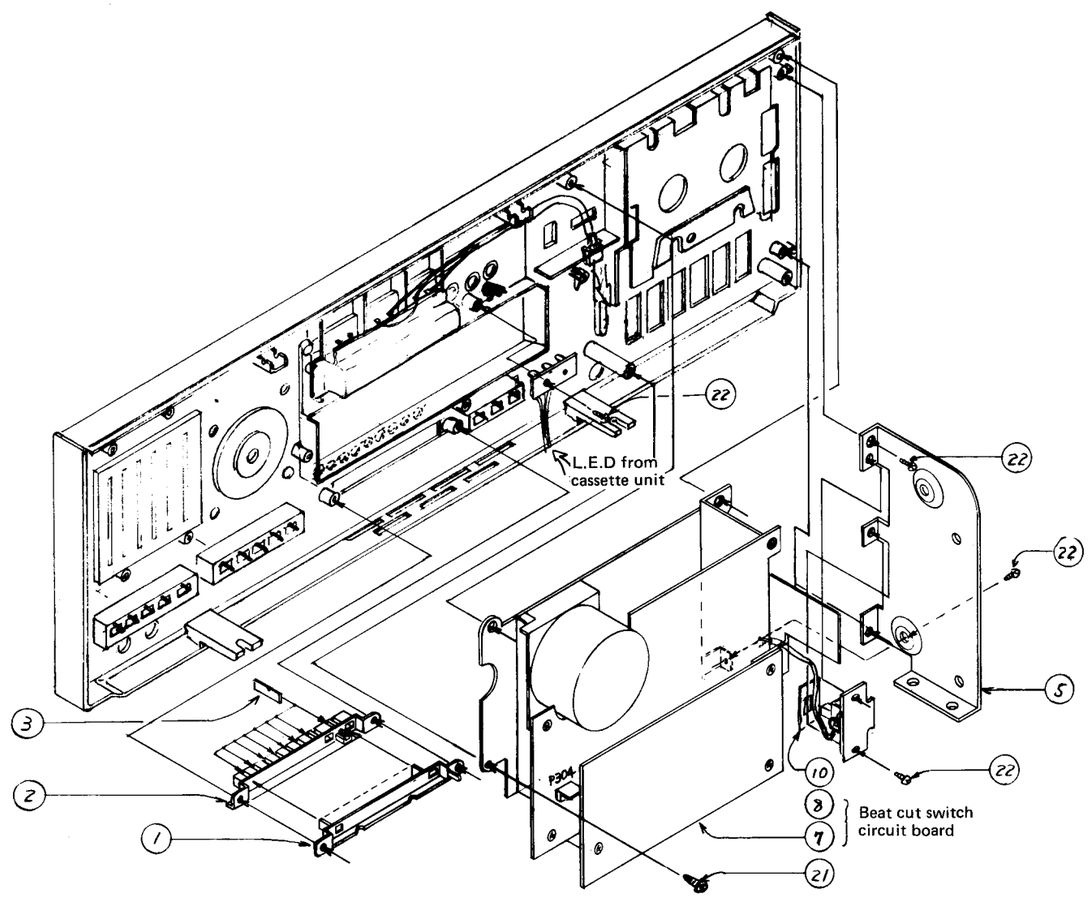


Fig. 26

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	Y20058-001	Side Panel	Wood Pattern	1
2	Y20042-001	Side Panel		1
4	———	Player Unit Ass'y	Not service parts	1
6	Y40411-001	Lock Screw		1
7	Y30185-001	Turntable Ass'y		1
20	WNS4000N	Washer		8
21	SDBP4008RS	Screw		8
24	GPSP3008MS	Screw		1
25	SBSB3010M	T. Screw		4

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	Y30189-001	Touch Switch (A)		1
2	Y30188-001	Preset SW Base		1
3	Y40430-001	Touch Switch (B)		8
5	Y30199-001	Stay Bracket		1
7	———	Cass Unit Ass'y	Not service parts	
8	———	Cass Unit Ass'y	" "	
10	Y40352-002	Blind		1
21	SBSB4012Z	T. Screw		3
22	SBSB3008Z	T. Screw		6

Installation of Front Panel Inside (2)

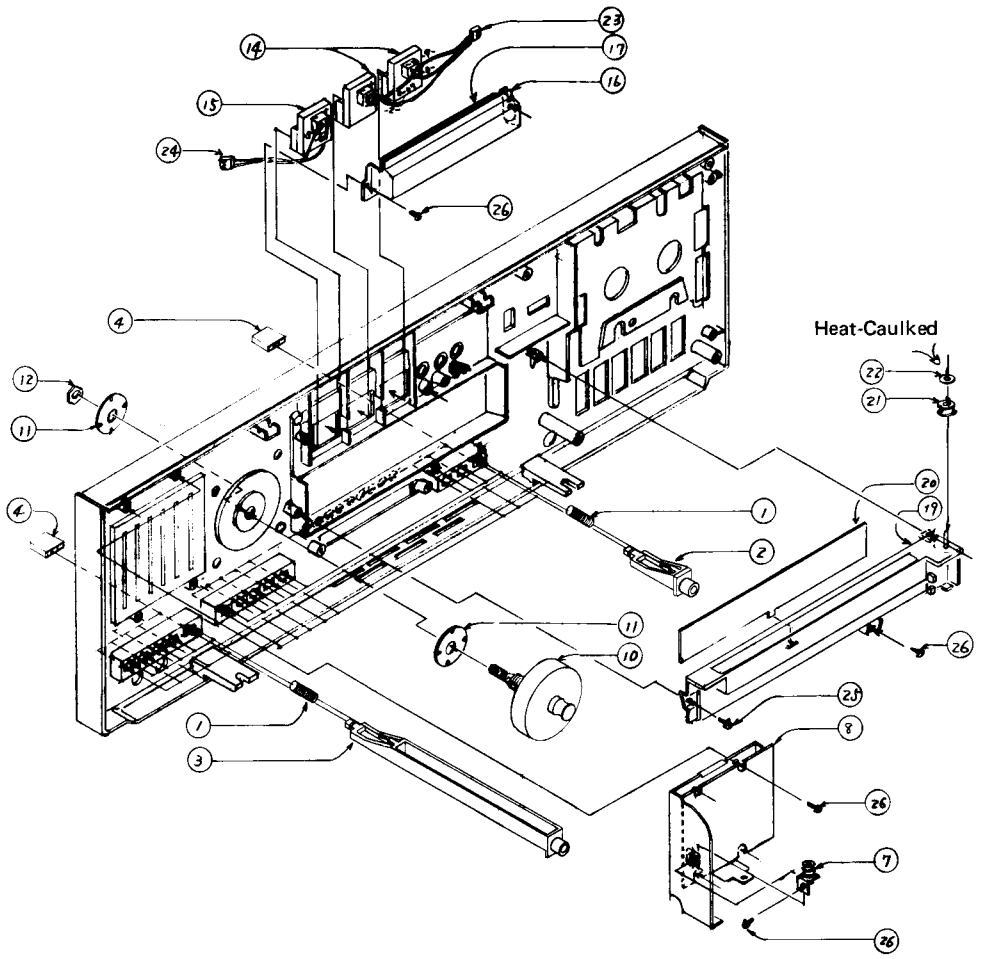


Fig. 27

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	Y40429-001	Spring		13
2	Y40426-001	Push Bar	(Short)	8
3	Y40427-001	Push Bar	(Long)	5
4	Y40428-001	Push Knob		13
7	Y40455-001	R. Bracket Ass'y		1
8	———	Cont. Amp. Ass'y	Not service parts	1
10	YKA40065-001	Tu. Shaft Ass'y		1
11	YXP40070-001	Tu. Lock Plate		1
12	E43323-002	Nut		1
14	Y00078-001	VU Meter		2
15	Y00079-001	Frequency Meter		1
16	Y30190-001	Lamp House		1
17	Y40434-005	Spacer		1
19	Y30198-001	Dial Back Panel		1
20	Y30183-001	Dial Scale		1
21	E45020-001	Roller		1
22	V42562-1	Special Washer		1
23	Y30222-003	Socket Ass'y	(3P)	1
24	Y30222-014	Socket Ass'y	(3P)	1
25	GBSB3008Z	T. Screw		3
26	SBSB3008Z	T. Screw		6

Aspect & Attachment Parts List

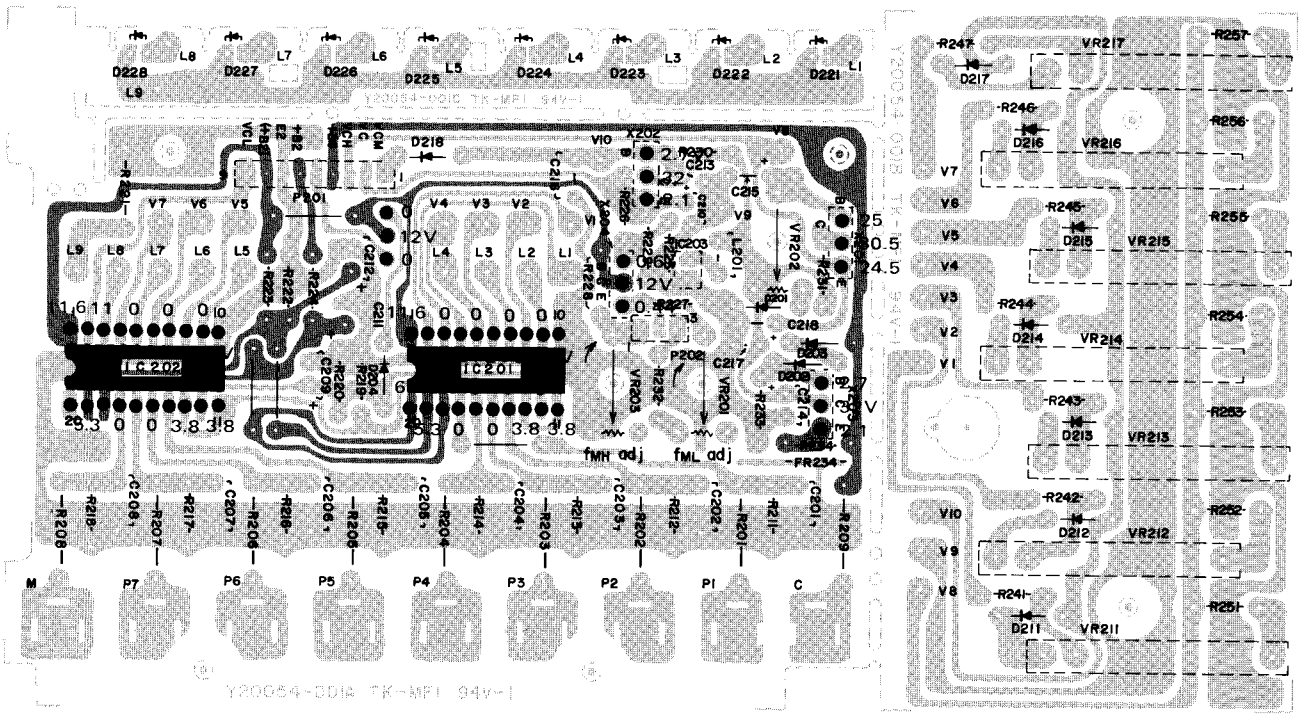
Parts No.	Parts Name	Description	Q'ty
*Y10062-001	Front Panel		1
*Y20043-001	Fitting (A)	On the upper of Front Panel	1
*Y20044-001	Fitting (B)	On the lower of Front Panel	1
*Y40399-001	Switch Panel	On the left end of Front Panel	1
*Y40505-001	Cass. Plate	Upper of Cassette Push Buttons	1
*Y40400-001	Counter Plate	For MF-47L	1
*Y40400-002	"	For MF47ML	1
*Y30182-001	Vol. Panel	On the right side of Front Panel	1
*Y30184-001	Window Screen	On the center of Front Panel	1
*Y40426-001	Push Bar (A)	(Short) for source selector etc.	8
*Y40427-001	Push Bar (B)	(Long)	5
*Y40428-001	Push Knob	For above selections	13
YKA40065-001	Tu. Shaft Ass'y		1
*YXKP040-3001C	Tuning Knob		1
*Y40425-001	Slide Knob	For volume controls	6
*Y30190-001	Lamp House		2
*Y00078-001	VU Meter		1
*Y30222-003	Socket Ass'y	For VU Meter	1
*Y00079-001	Frequency Meter		1
*Y30222-014	Socket Ass'y	For Frequency meter	1
*QLP4101-004B	Pilot Lamp	⚠	3
*Y30183-001	Dial Scale		1
*Y40401-001	Dial Needle		1
*Y30189-001	Touch Switch (A)	8 poles	1
*Y40430-001	Touch Switch (B)	1 pole	8
*Y40455-001	Roller Bracket Ass'y		1
*Y10064-001	Bottom Case		1
QZD1205-003	Dial Drum		1
*Y10063-001	Cabinet Case	Hot-stamp for MF-47L	1
*Y10063-002	"	Black for MF-47ML	2
Y30120-003	Hinge Ass'y	For fixing Dust cover	1
*Y40476-001	Lock Plate		2
Y40501-001	Cass. Holder Ass'y		1
*Y40504-001	Holder Plate	Covering the Cassette Holder	1
*Y20058-001	Side Panel (wooden)	For MF-47L	2
*Y20042-001	Side Panel (mould)	For MF-47ML	4
YUM40081-001	Warning Label	⚠ For Cabinet	1
QZL1002-003	"	⚠ For Power Cord	1
*Y10065-001	Dust Cover		1
TFBP4008RS	Screw	For dust cover	1

Note: The mark * means new parts.

The mark ⚠ means of safety assurance parts. Please use the specified one when repairing.

Circuit Board Diagrams & Parts List

Pre-set Circuit Board



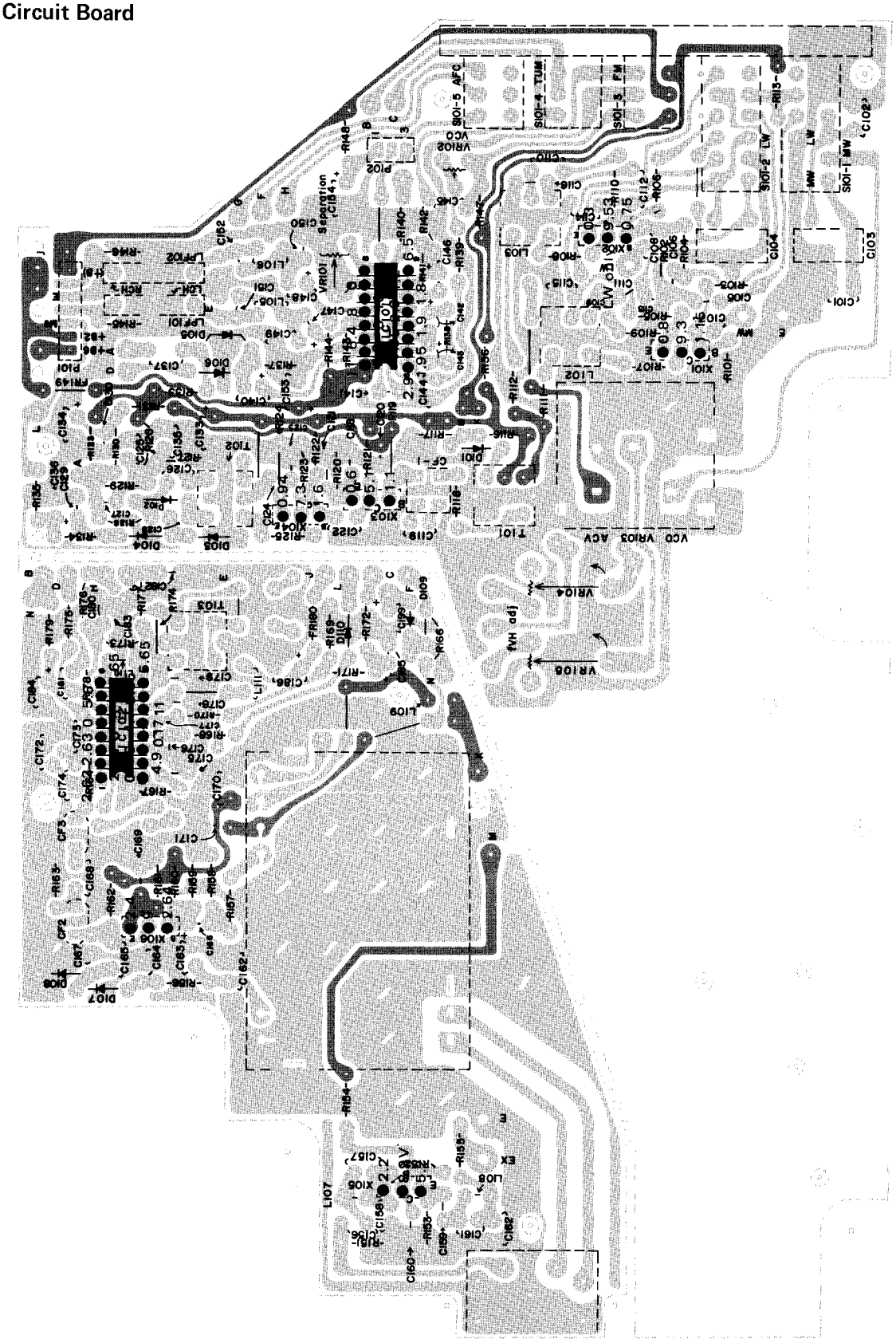
Note: • Indicated voltages are measured with a 20kΩ/V tester.
• The part indicated with ▬ is of +B voltage.

Fig. 28

Ref. No.	Parts No.	Parts Name	Description	Q'ty
IC201,202	*μPC1009C	IC		2
IC203	*μPC574J	IC		1
X203	*2SA673C	Silicon Transistor		1
X201,202	*2SC1345DE	〃		2
X204	*2SC458CD	〃		1
D202,203,204, 218	*1S2075K	Silicon Diode		4
D201	*RD18E-S1	Zener Diode		1
L201	YQV30105-180	Inductor		1
VR201	*QVP3A0B-054A	V. Resistor		1
VR202	* 〃 -054A	〃		1
VR203	* 〃 -013A	〃	⚠	1
FR234	QRZ0040-101	Fusible Resistor	⚠ for MF-47(E) only	1
FR234	QRZ0040-101BS	〃		1
VR211~217	*Y00072-203	Variable Resistor		7
D211~217	*1S2075K	Silicon Diode		7
D221~228	TLR114	L.E.D.		8
	*Y30197-001	L.E.D Guide		1

The mark ⚠ means of safety assurance parts. Please use the specified one when repairing.

Tuner Circuit Board



Note: ● Indicated voltages are measured with a 20kΩ/V tester.
● The part indicated with ▬ is of +B voltage.

Fig. 29

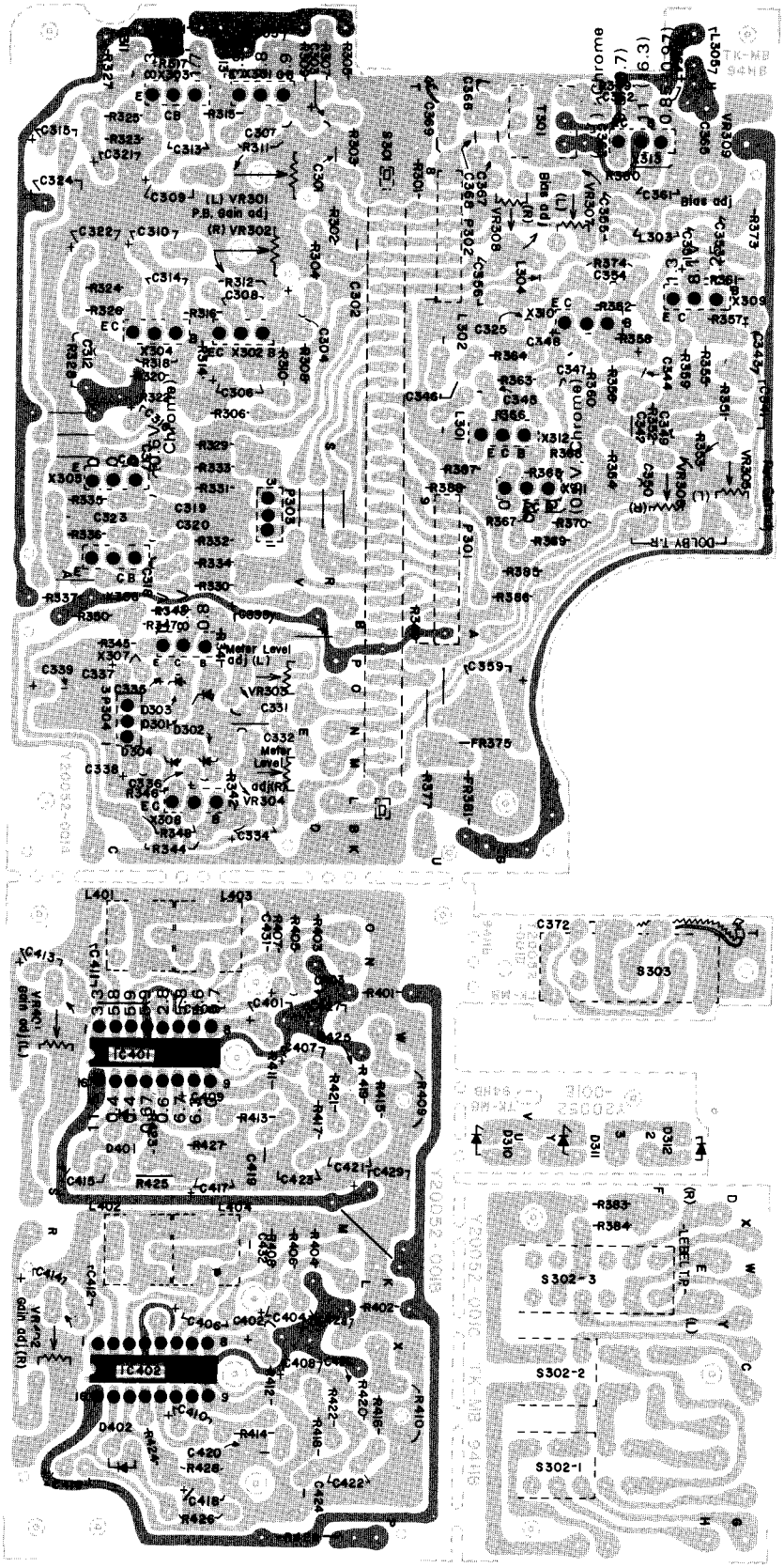
Tuner Circuit Board Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
S101-1~5	*Y00052-004	Push Switch	Band Select	1
X101,102	*2SC460C	Silicon Transistor		2
L102	E03079-13M	MW OSC Coil		1
L103	〃 -18M	LW OSC Coil		1
X103,104	*2SC460C	Silicon Transistor		2
T101	*Y00076-001	AM IFT		1
CF-1	*SFZ455A	Ceramic Filter		1
IC101	LA3350A	I.C		1
D105,106	*1S2075K	Silicon Diode		2
VR101	*QVP8A0B-013A	V. Resistor	Separation	1
VR102	QVP4A0B-472	〃	Free run Adjustment	1
LPF101,102	*Y00083-001	Filter		2
L105,106	TAC000324-05	Inductor	33mH	2
VR104	〃 -053A	〃	fL adjust	1
J201	*Y30222-013	Socket Ass'y	Preset	1
	*Y00074-001	Ant. Socket Ass'y		1
X105	*2SC460C	Silicon Transistor	18μH	1
L107	YQV30105-180	Inductor	100μH	1
L108	YQV30105-101	〃		1
X106	*2SC461C	Silicon Transistor		1
IC102	*LA1230	IC		1
D109,110	*1S2075K	Silicon Diode		1
CF-2,3	*SFE10.7MS3	Ceramic Filter		2
T103	YSNY1719-001	FM IFT		1
L109~111	YQV30105-180	Inductor	18μH	3
	*Y00073-001	FM Front End		1
	*QAZ1019-001	Hipoly V.C		1
L101	*Y00075-001	Bar Antenna Coil		1
FR-141	QRZ0040-470	Fusible Resistor	⚠	1

Note: The mark * means new parts.

The mark ⚠ means of safety assurance parts. Please use the specified one when repairing.

Cassette Amp. Circuit Board



Note: • Indicated voltages are measured with a 20kΩ/V tester.
• The part indicated with ■ is of +B voltage.

Fig. 30

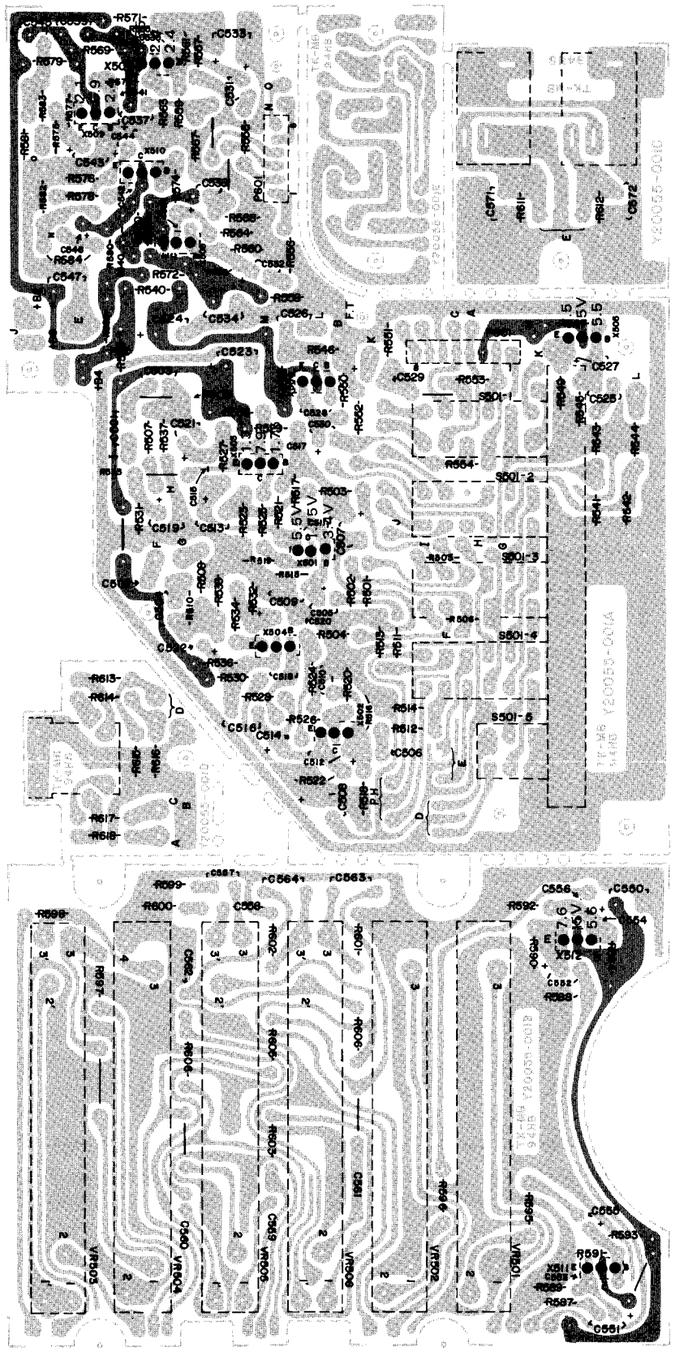
Cassette Amp. Circuit Board Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
S301	*Y00070-001	Slide Switch	Rec/P.B	1
X301,302	*2SA872E	Silicon Transistor		2
X303~306	*2SC1345E	"		4
VR301,302	*QVP3A0B-052A	V. Resistor	P. B Gain	2
X307,308	*2SC458CD	Silicon Transistor		2
VR303,304	*QVP8A0B-054A	V. Resistor		2
C309~312	*2SC458D	Silicon Transistor		4
VR305,306	*QVP8A0B-024A	V. Resistor	Rec Gain	2
X313	*2SD467C	Silicon Transistor		1
T301	*Y40508-001	OSC Coil		1
VR309	*QVZ3110-004	V. Resistor	500Ω 2W	1
VR307,308	*QVP8A0B-015A	V. Resistor	Rec Bias	2
IC401,402	NE545B	Dolby IC		2
L403,403	*KM10D-85B	Filter		2
L401,402	* " -19B	"		2
VR401,402	*QVP8A0B-024A	V. Resistor		2
S302	*Y00052-003	Push Switch		1
D310~312	TLR114	L.E.D		3
J202	*Y30111-015	Socket Ass'y	To Tuner	1
FR-381	QRZ0040-470	Fusible Resistor	⚠	1

Note: The mark * means new parts.

The mark ⚠ means of safety assurance parts. Please use the specified one when repairing.

Control Amp. Circuit Board



Note: ● Indicated voltages are measured with a 20kΩ/V tester.
● The part indicated with ▬ is of +B voltage.

Fig. 31

Control Amplifier Circuit Board Parts List (Refer to Fig. 31)

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
X501,502	*2SA872E	Silicon Transistor		2
X503,504	*2SC1345DE	〃		2
S501	*Y00052-005	Push Switch	Source Select	1
X505,506	*2SC1345DE	Silicon Transistor		2
J101	*Y30222-007	SocketAss'y	To Tuner	1
J301	* 〃 -009	〃	To Cassette Circuit Board	1
X507,508	*2SA836E	Silicon Transistor		2
X509,510	*2SC458CD	〃		2
X511,512	*2SC1345DE	〃		2
VR501,502	*QVT4C2A-054A	Slide V. Resistor	Rec Level	2
VR504	*QVT4C2W-515A	〃	Blance	1
VR503	*QVT5C2A-054A	〃	Main Vol.	1
VR505,506	*QVT5C2C-015A	〃	Tone	2
	QMS6303-006	Jack Ass'y	Mic	2
	*QMC9014-006	DIN Socket		1

Power Amp. Circuit Board Parts List (Refer to Fig. 32)

⚠

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
D5~8	30D2-B	Silicon Diode		1
C17,18	QEW71VH-478	E. Cap.		2
D1~4	*10E1-B	Silicon Diode		4
D11	*RD18E-S1	Zener Diode		1
D10	RD13E(B)	Zener Diode		1
FR16	*QRZ0041-470	Fusible Resistor	⚠	1
D9	*10E1-B	Silicon Diode		1
FR21,22	QRZ0040-4R7	Fusible Resistor	⚠	2
	*Y00071-001	Socket Ass'y	Speaker	1
	*QMS6313-001	Jack Ass'y	Head Phone	1
X1,2	2SD325E	Silicon Transistor		2
IC1,2	*STK 077	Power IC		2

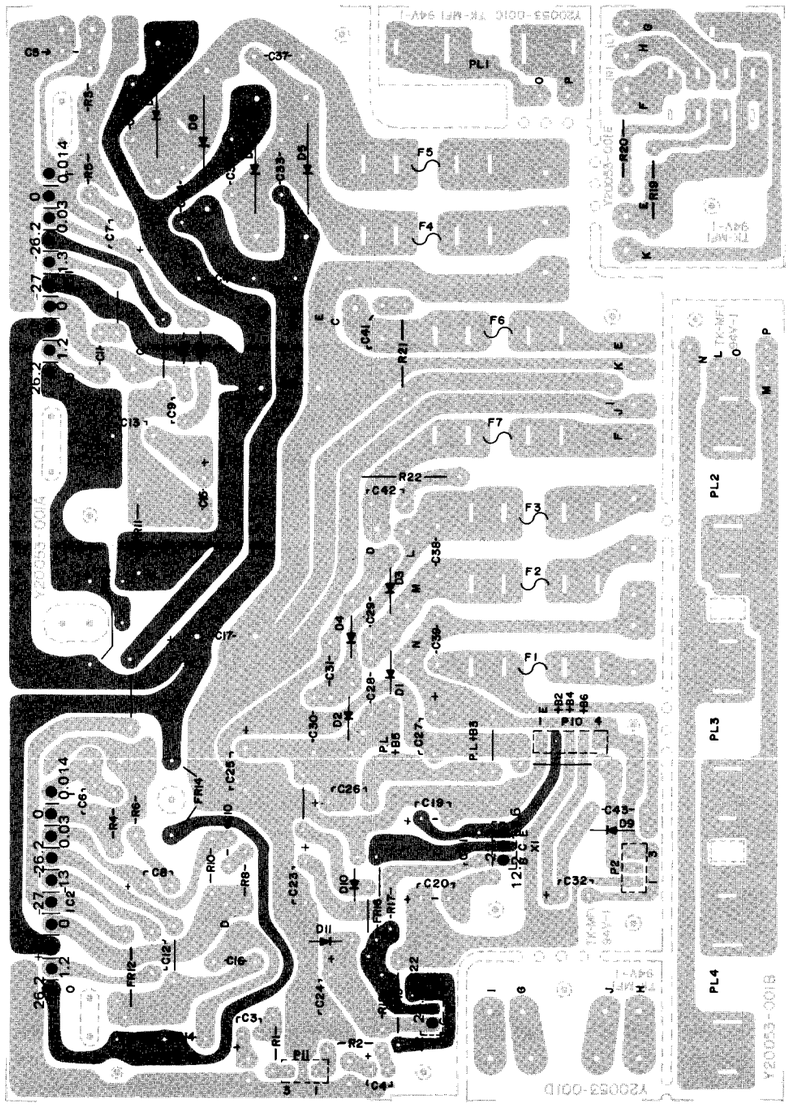
Power Supply Circuit Board Parts List (Refer to Fig. 32)

⚠

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
S1	QSP2111-011	Push Switch	⚠	1
S2	QSR0074-001	Voltage Selector	⚠	1

The mark ⚠ means of safety assurance parts. Please use the specified one when repairing.

Power Amp. Circuit Board



Note: • Indicated voltages are measured with a 20kΩ/V tester.
• The part indicated with ▬ is of +B voltage.

Fig. 32

Other Parts
(AC power input circuit parts & Accessory parts.)

Parts No.	Parts Name	Description	Q'ty
*Y00077-001	Power Transformer	⚠	1
QMP9017-005	Power Cord	⚠ For MF-47L(U.K) only	1
QMP3900-244	〃	⚠ CEE Class Ⅱ	1
*Y40460-001	Stopper	⚠	1
*Y40490-001	Pu.Knob Ass'y	For Power Switch	1
QMF51A2-R80L	Fuse F2,3	⚠	2
〃 -3R15L	〃 F4,5	⚠	2
〃 -2R15L	〃 F6,7	⚠	2
*YDK30011-024	Inst. Book		1
G8395-1	EP Adaptor	Accessory Parts	1
TLZ270306-01	FM Ant. Ass'y	〃	1
QMC0288-001	DIN Plug	〃	(2)

Note: The mark ⚠ means of safety assurance parts. Please use the specified one when repairing.

Characteristics of Transistors

Symbol No.	Parts Name	Sort	Pc	fT
X1,2	2SD-325E	Silicon	10W	8MHz
X204,307,308 509,510	2SC-458CD	〃	200mW	230MHz
X309~312	2SC-458D	〃	200mW	230MHz
X313	2SC-467C	〃	500mW	280MHz
X103,104	2SC-460C	〃	200mW	230MHz
X106	2SC-461C	〃	200mW	230MHz
X203	2SA673C	〃	400mW	120MHz
X507,508	2SA-836E	〃	200mW	200MHz
X301,302,501, 502	2SA-872E	〃	300mW	120MHz
X201,202,503, 504,505,506, 511,512	2SC-1345DE	〃	200mW	230MHz
X303~306	2SC-1345E	〃	200mW	230MHz

Transistor and IC Lead Identification

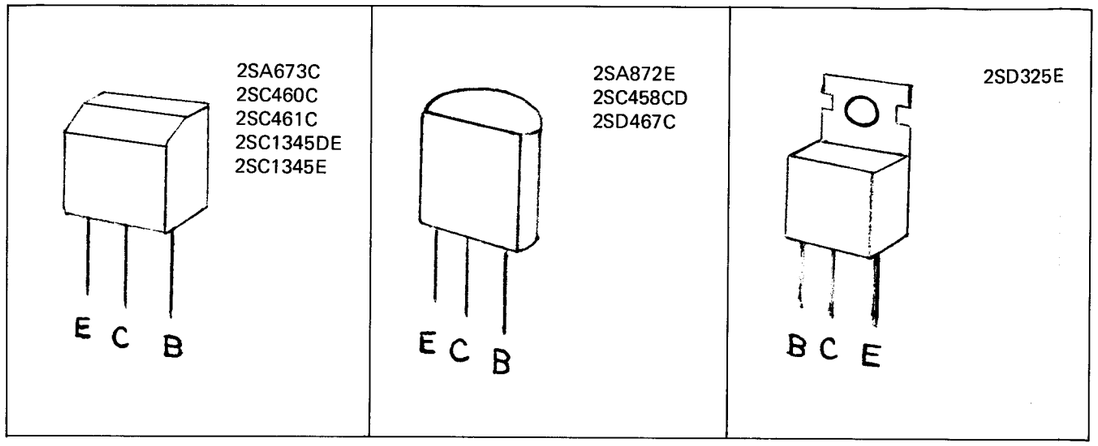
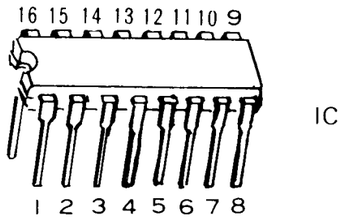


Fig. 33

NE545B



IC

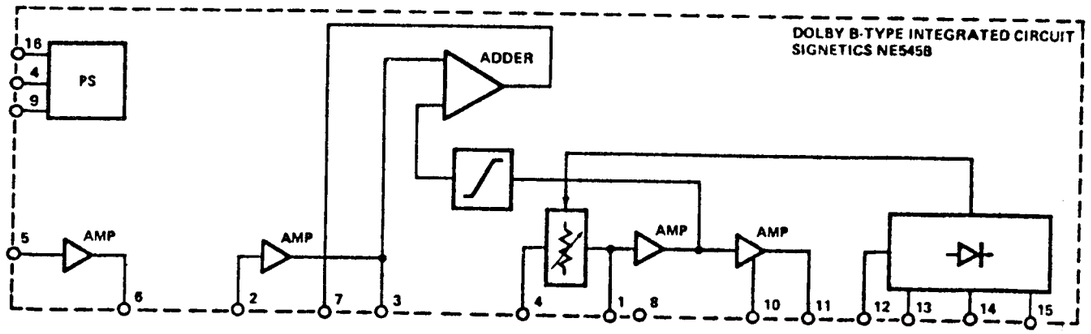
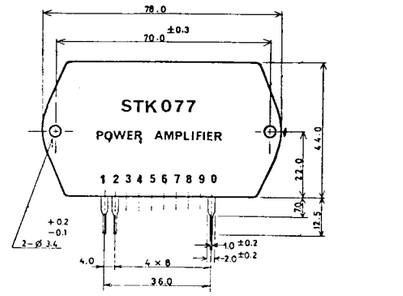


Fig. 34

STK-077
Internal/Circuit



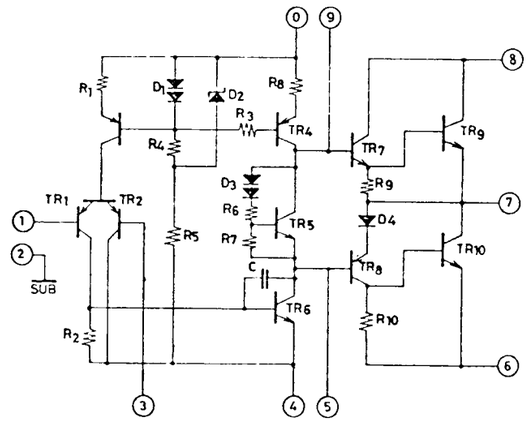
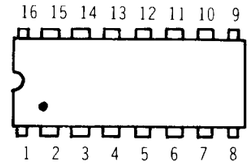


Fig. 35

IC102
LA3350



LA3350A

PCL	PHASE COMPALATOR FOR LAMP
LPF	LOW PASS FILTER
PCV	PHASE COMPALATOR FOR VCO
VCO	VOLTAGE CONTROLLED OSCILLATOR
TUFF	DIRECT COUPLED TYPE FLIP-FLOP

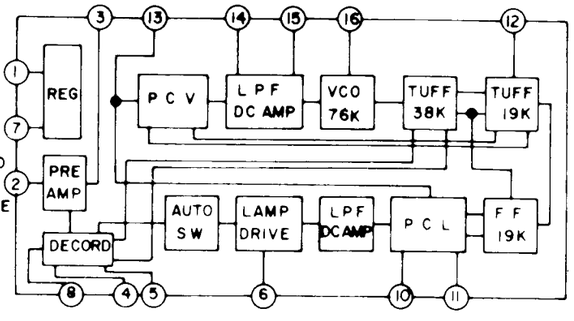


Fig. 36

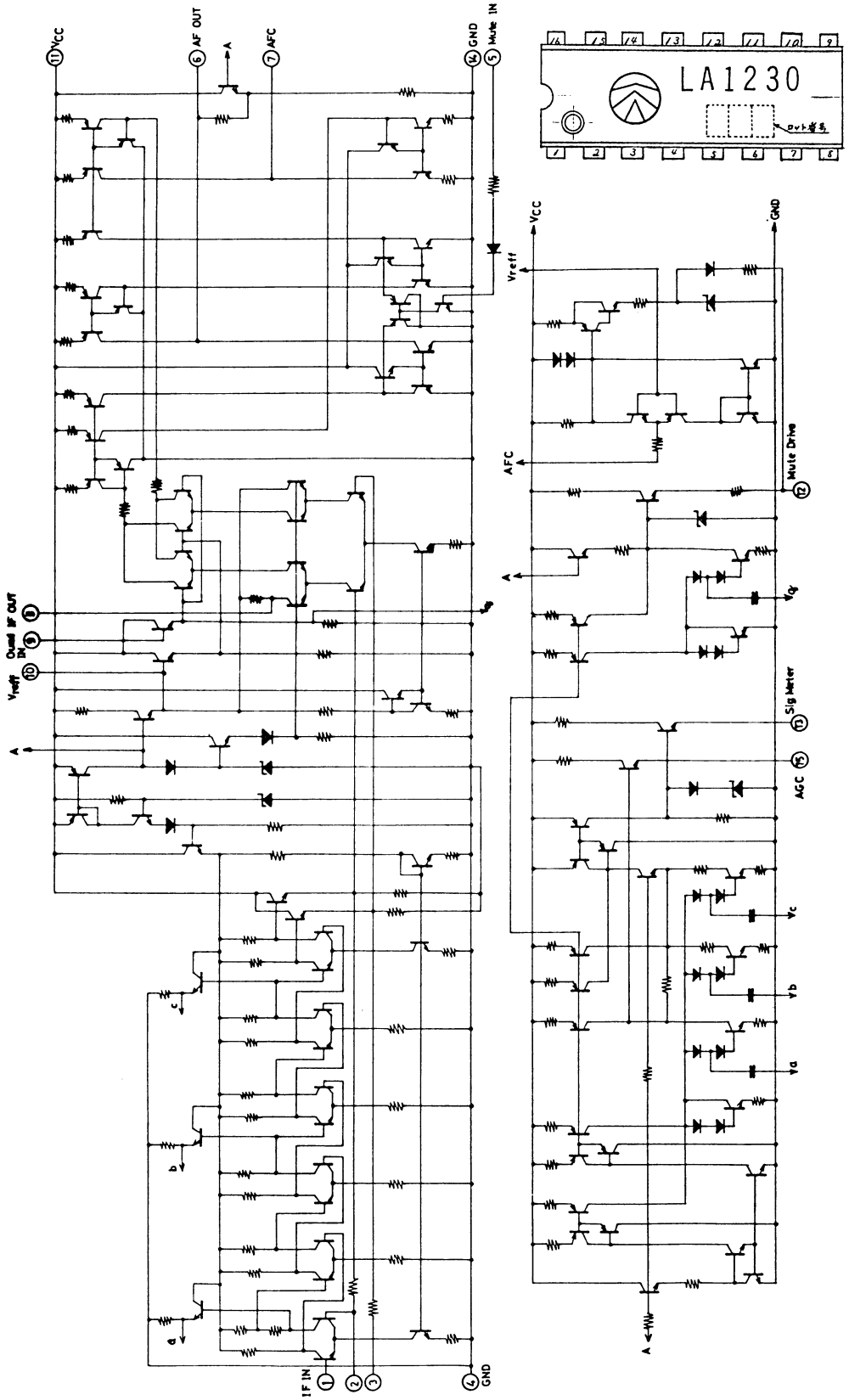

LA1230
VCC
AF OUT
AFC
GND
Mute IN
Vreff
Quad IF OUT
IF IN
Mute Drive
Sig Meter
AGC
Vc
Vb
Va

Fig. 37

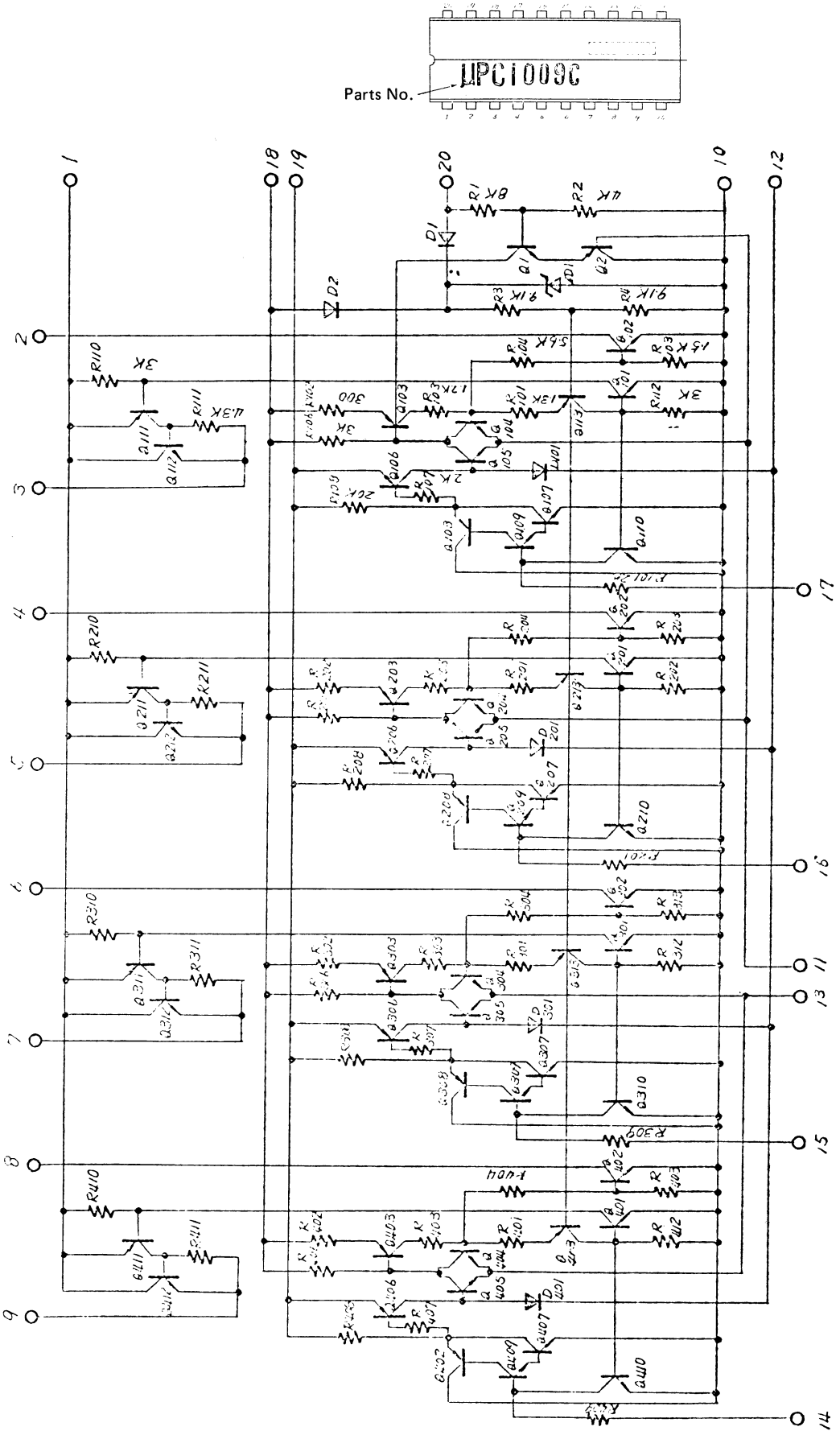
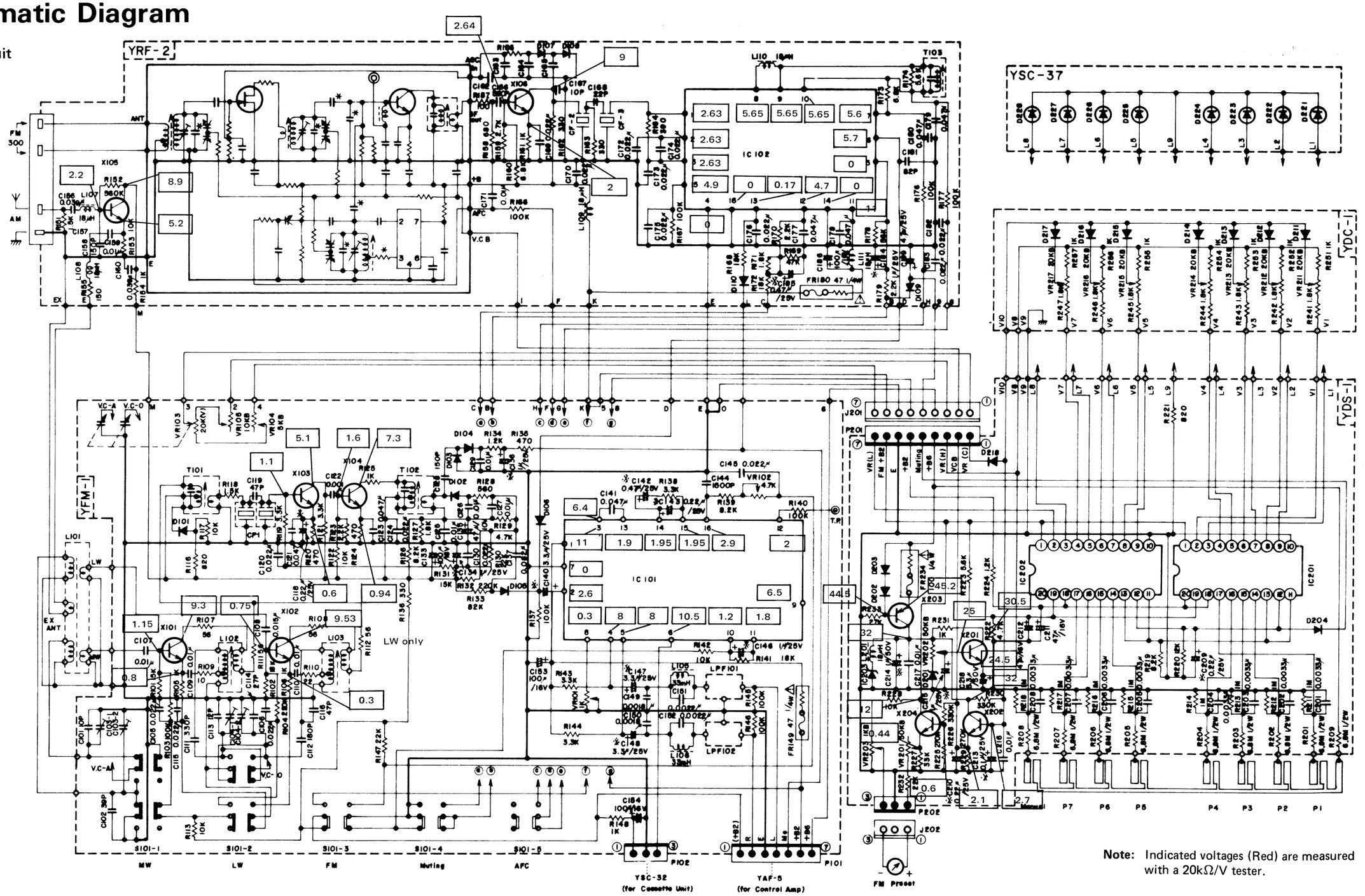


Fig. 38

Schematic Diagram

Tuner Circuit



IC202

Terminal	1	2	3	4	5	6	7	8	9	10
Volt	11.6	0.075	11	24	0	24	0	24	0	0
Terminal	11	12	13	14	15	16	17	18	19	20
Volt	3.8	0	3.8	0	0	0	0	6.5	5.3	0

IC201

1	2	3	4	5	6	7	8	9	10
11.6	24.1	0	24	0	24	0	24	0	0
11	12	13	14	15	16	17	18	19	20
3.8	0	3.8	0	0	0	0	6.5	5.3	6.5

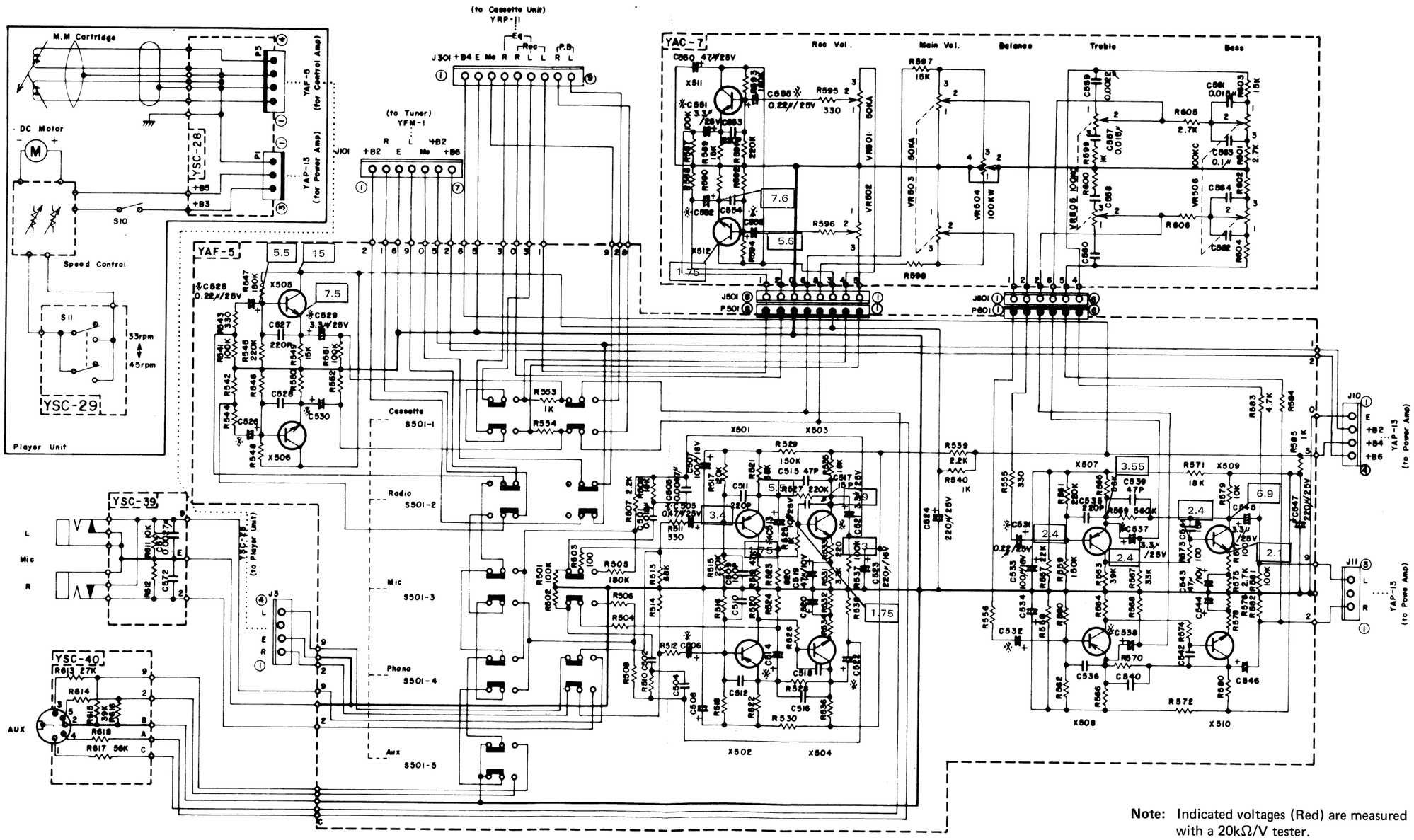
Note: Indicated voltages (Red) are measured with a 20kΩ/V tester.

Refer to page 33

Fig. 39

Subject to change without notice for improvement.

Control Amplifier



Note: Indicated voltages (Red) are measured with a 20kΩ/V tester.

Refer to page 33

Fig. 40

Subject to change without notice for improvement.

Tuner Circuit

X No.	SEMICON.	V(B)	V(C)	V(E)	X No.	SEMICON.	V(B)	V(C)	V(E)
X101	2SC460C	1.3	9.3	0.8	X201	2SC1345E	25.6	30.5	25.0
X102	2SC460C	0.9	9.5	0.2	X202	2SC1345E	2.8	31.7	2.3
X103	2SC460C	1.3	5.1	0.6	X203	2SA673C	44.5	32.1	45.1
X104	2SC460C	1.6	7.4	0.9	X204	2SC458CD	1.0	11.7	0.5
X105	2SC460C	5.8	8.9	5.3	X205	2SC458CD	0.3	11.7	0
X106	2SC461C	2.7	8.9	2.0					

IC No.	INT. CIRCUIT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC101	LA1230	2.9	2.9	2.9	0		5.7	5.8	5.7	5.7	5.7	10.5	4.6	0.5	0	5.2	0				
IC102	LA3350A	11.1	3.1	6.7	8.1	8.1	10.3	0	0.4	6.4	1.2	1.8	2.3	1.9	2.1	2.1	2.9				
IC201	UPC1009C	11.7	0	10.9	25.2	0	25.2	0	25.2	0	0	3.7	0	3.7	0	0	0	0	6.3	5.4	6.3
IC202	UPC1009C	11.7	25.2	0	25.2	0	25.2	0	25.2	0	0	3.7	0	3.7	0	0	0	0	6.3	5.4	0
IC203	UPC574J	32.1	0																		

D101~104	1S188FM	AM AGC & DET
D105,106	1S2075K	AM FM OR SW
D109,110	1S2075K	FM MUTING
D201	RD18E0S1	COM. FOLTAGE
D202,203	1S2075K	CURRENT CONT.
D211~218	1S2075K	PRESET OR SW
D221~228	TLR114	PRESET IND

VR101	MPX PLL FREE RUN 19KHz adj	VR201	FM F.M HIGH LIMIT adj
VR102	FM STEREO SEPARATION adj	VR202	FM HIGH LIMIT F adj
VR103	FM MANUAL TUNING	VR203	FM F.M LOW LIMIT adj
VR104	FM MANUAL LOW LIMIT. F. adj	VR211~217	FM PRESET TUNING

CR : CERAMIC FILTER
* : LOW LEAK CURRENT E. CAPACITOR
FR : FUSIBLE RESISTOR
⚠ SAFETY Parts

Control Amplifier

X No.	SEMICON.	V(B)	V(C)	V(E)	X No.	SEMICON.	V(B)	V(C)	V(E)	X No.	SEMICON.	V(B)	V(C)	V(E)
X501	2SA872E	4.8	1.9	5.4	X505	2SC1345DE	8.0	14.9	7.5	X509	2SC458CD	2.7	7.2	2.1
X502	2SA872E	4.6	1.9	5.4	X506	2SC1345DE	8.0	14.9	7.5	X510	2SC458CD	2.7	7.2	2.1
X503	2SC1345DE	1.9	8.2	1.3	X507	2SA836E	2.9	2.7	3.5	X511	2SC1345DE	7.9	14.9	7.4
X504	2SC1345DE	1.9	8.2	1.3	X508	2SA836E	2.9	2.7	3.5	X512	2SC1345DE	7.9	14.9	7.4

VR501,502	CASSETTE RECORDING VOLUME
VR503	MAIN VOLUME
VR504	BALANCER VOLUME
VR505	TREBLE TONE VOLUME
VR506	BASS TONE VOLUME

S10 PLAYER MOTOR SWITCH
S11 TURN TABLE SPEED SELECT SWITCH

* : LOW LEAD CURRENT E. CAPACITOR

Cassette Circuit

IC No.	INT. CIRCUIT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC401	NE545	5.6	5.9	5.9	5.9	5.6	5.9	5.6	6.3	0	6.3	6.6	0.7	0.7	0.5	0.5	11.7
IC402	NE545	5.6	5.9	5.9	5.9	5.6	5.9	5.6	6.2	0	6.3	6.6	0.7	0.7	0.5	0.5	11.7

X No.	SEMICON.	V(B)	V(C)	V(E)	X No.	SEMICON.	V(B)	V(C)	V(E)
X301	2SC872E	3.3	2.2	3.9	X307	2SC458CD	0.9	9.2	0.3
X302	2SC872E	3.3	2.2	3.9	X308	2SC458CD	0.9	9.2	0.3
X303	2SC1345D	2.2	9.1	1.6	X309	2SC458D	(1.9)	(8.3)	(1.2)
X304	2SC1345D	2.2	9.1	1.6	X310	2SC458D	(1.9)	(8.3)	(1.2)
X305	2SC1345D	9(0.6)	0	0	X311	2SC458D	0(0.6)	0	0
X306	2SC1345D	0(0.6)	0	0	X312	2SC458D	0(0.6)	0	0
					X313	2SD467C	(0.8)	(10.6)	(0.4)
							(0.93)	(16.3)	(0.7)

D301~304	1S188FM	LEVEL DET.
D310	TLR114	REC. INDICATOR
D311	TLR114	DOLBY NR INDICATOR
D312	TLR114	FM STEREO INDICATOR
D401,402	OA91	SIDE CHAIN DET.

VR301,302	PLAY BACK GAIN adj
VR303,304	LEVEL METER AMP GAIN adj
VR305,306	RECORDING GAIN adj
VR307,308	CHROME BIAS adj
VR309	NORMAL BIAS adj
VR401,402	DOLBY LEVEL adj

** : TANTALUME SOLID E. CAPACITOR
* : LOW LEAK CURRENT E. CAPACITOR
FR : FUSIBLE RESISTOR
⚠ SAFETY Parts

Power Source & Amplifier

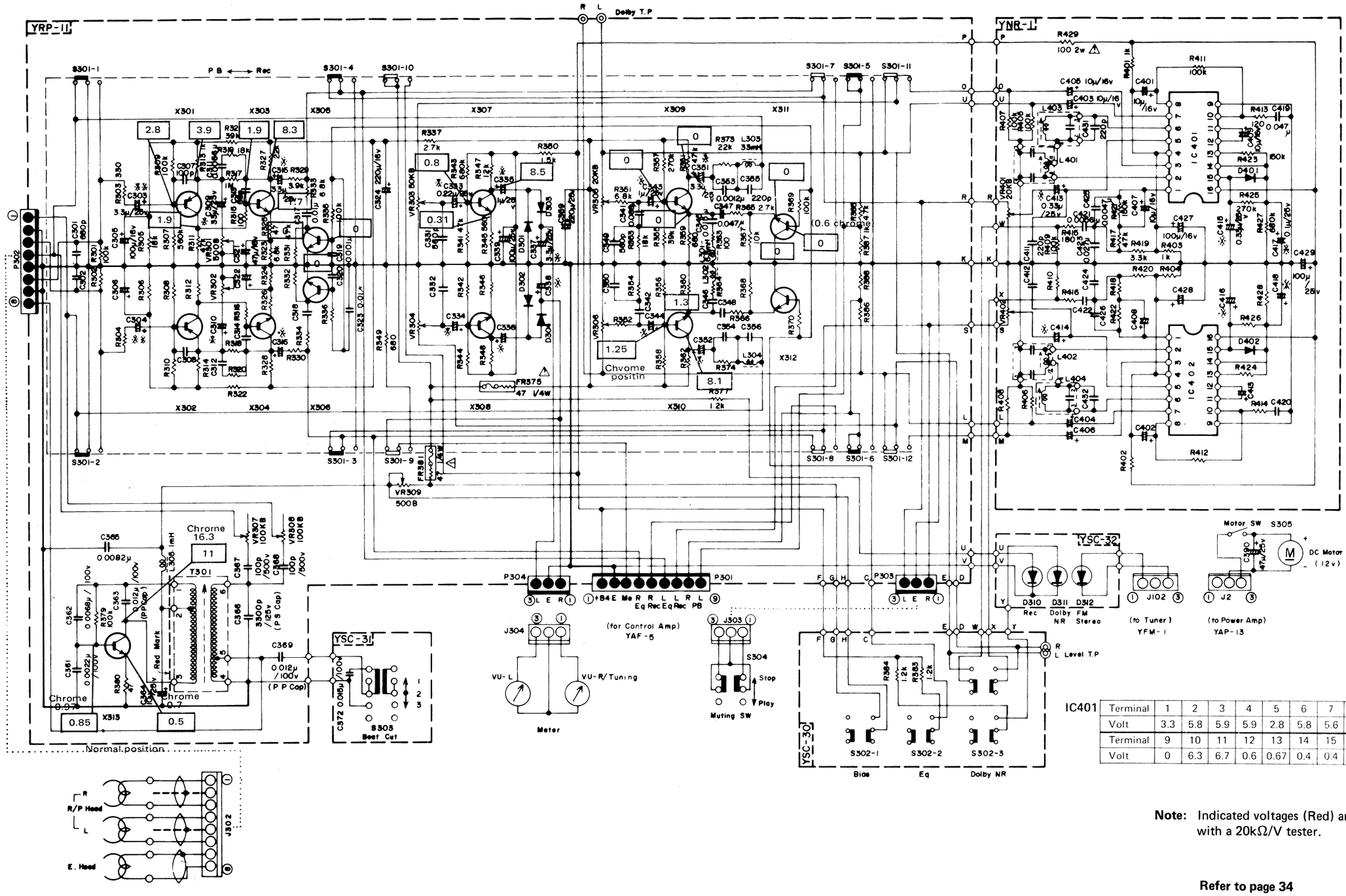
IC No.	INT. CIRCUIT	1	2	3	4	5	6	7	8	9	10
IC1	STK-077	0.03	0	0.03	-26.3	-1.3	-26.7	0	26.7	1.2	26.3
IC2	STK-077	0.03	0	0.03	-26.3	-1.3	-26.7	0	26.7	1.2	26.3

X No.	SEMICON	V(B)	V(C)	V(E)
X1	2SD325E	12.3	22.1	11.7
X2	2SD325E	17.6	25.5	17.0

D1~D4	10E1-B	D10	RD13EB
D5~D8	30D2-B	D11	RD18E-S1
D9	10E1-B		

* : LOW LEAK CURRENT E. CAPACITOR
FR : FUSIBLE RESISTOR
⚠ SAFETY Parts
■ SAFETY Circuit

Cassette Circuit



IC401	Terminal	1	2	3	4	5	6	7	8
	Volt	3.3	5.8	5.9	5.9	2.8	5.8	5.6	5.7
	Terminal	9	10	11	12	13	14	15	16
	Volt	0	6.3	6.7	0.6	0.67	0.4	0.4	11.5

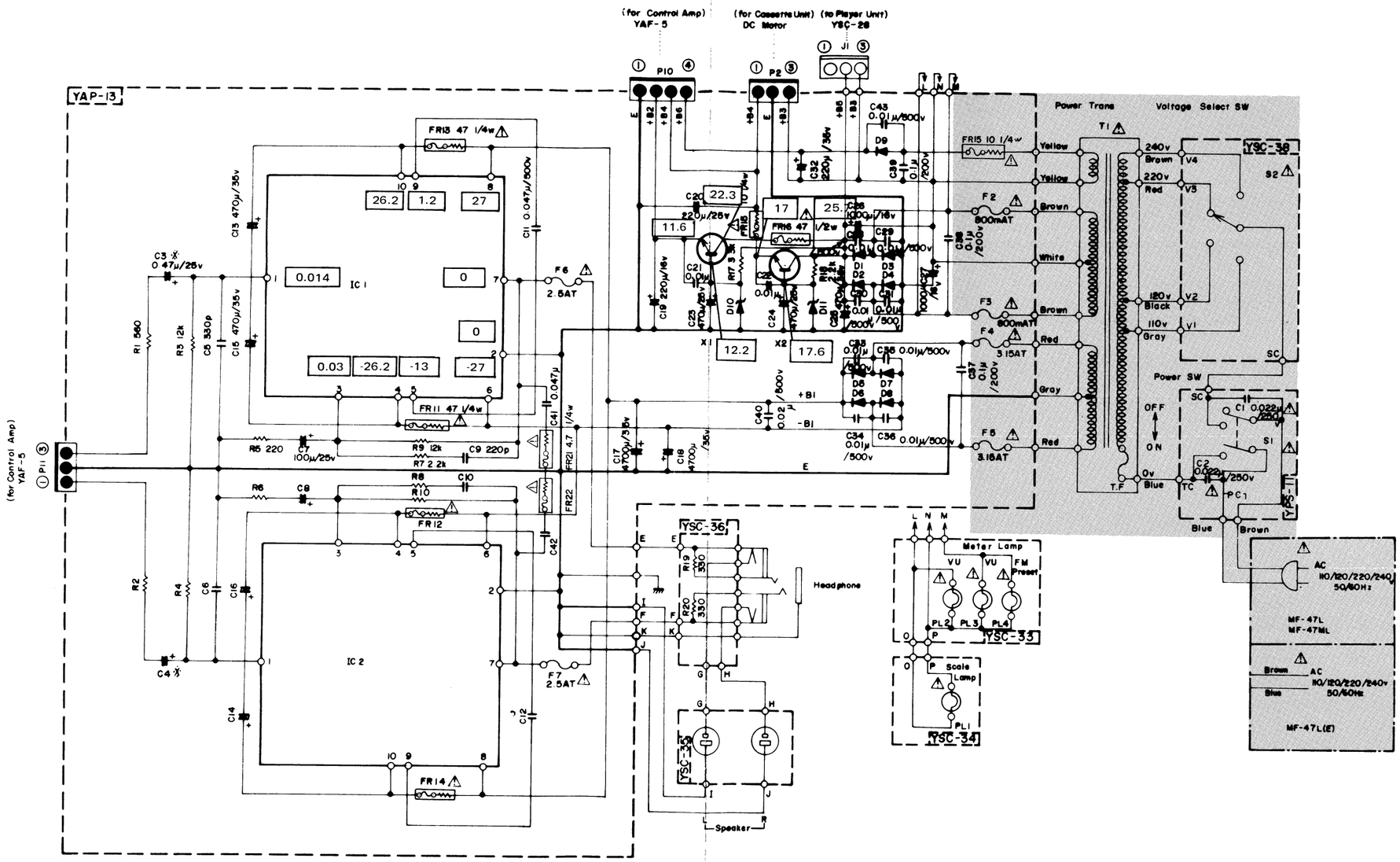
Note: Indicated voltages (Red) are measured with a 20kΩ/V tester.

Refer to page 34

Fig. 41

Subject to change without notice for improvement.

Power Source & Amplifier

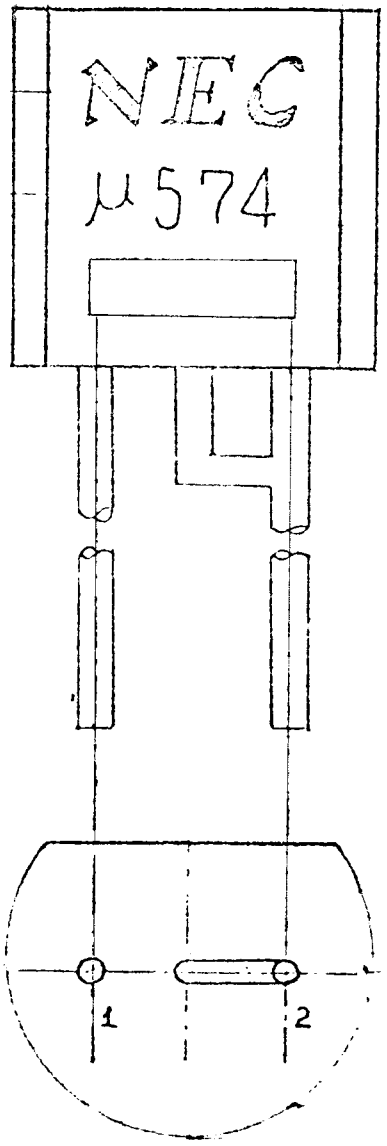


Note: Indicated voltages (Red) are measured with a 20kΩ/V tester.

Fig. 42

Refer to page 34

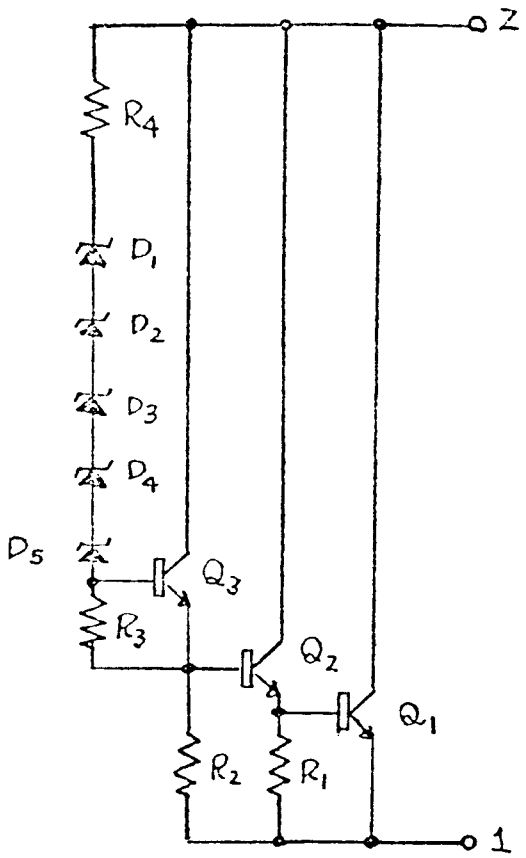
Subject to change without notice for improvement.



Terminal Connection (Polarity)

1 Anode
2 Cathod

μPC574J
Aspect



μPC574J
Internal Circuit

Fig. 43